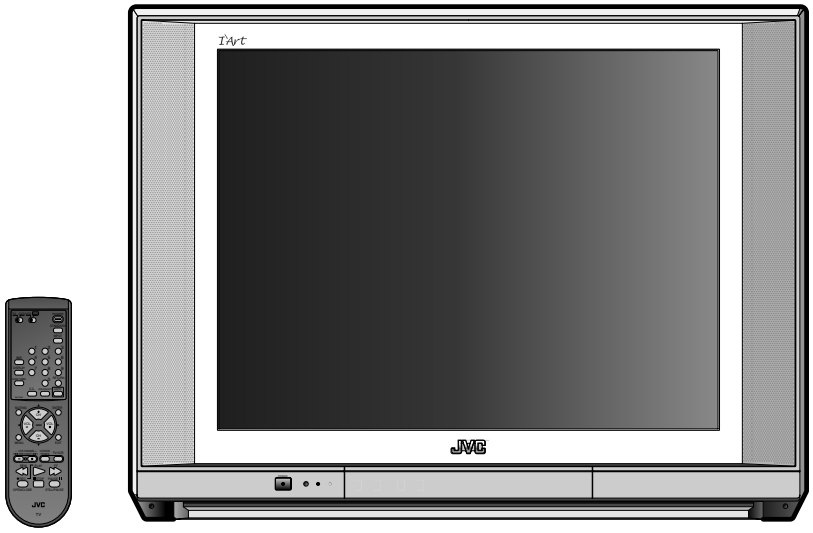
JVC

# SERVICE MANUAL

## COLOR TELEVISION

# AV-20F703



*MC-Service*

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# SPECIFICATIONS

**TELEVISION**

| | |
|---|---|
| Picture Tube: | 20” (measured diagonally) |
| Color System: | NTSC |
| TV RF System: | CCIR (M) |
| Tuner Type: | 181 Channel, Quartz PLL Frequency Synthesized |
| Receiving Channels: | VHF 2-13 |
| | UHF 14-69 |
| | CATV 01-97 (5A)-(A-3) |
| | 98-99 (A-2)-(A-1) |
| | 14-22 (A)-(I) |
| | 23-36 (J)-(W) |
| | 37-65 (AA)-(FFF) |
| | 66-125 (GGG)-(125) |
| Intermediate Frequency: | Picture (FP) : 45.75 MHz |
| | Sound (FS) : 41.25 MHz |
| | FP-FS : 4.50 MHz |
| Antenna Input: | VHF/UHF In 75 ohms coaxial, F-Type Connector |
| Speaker: | 2” x 4-3/4”, 8 ohms x 2 |
| Audio Output Power: | 2.5 W + 2.5 W |

**GENERAL**

| | |
|---|---|
| Power Source: | 120 V AC, 60 Hz |
| Power Consumption: | 105 Watts |
| Dimensions(W x H x D): | 23-1/4” (590 mm) x 17-1/2” (444 mm) x 19-3/4” (498.5 mm) |
| Weight: | 50.6 lbs/23 kg |
| Video/Audio Inputs: | Component input |
| | Y input: 1.0 Vp-p, 75 ohm (RCA pin jack) |
| | Pb, Pr input : 0.7 Vp-p, 75 ohm (RCA pin jack) |
| | S-Video input |
| | Y input: 1.0 Vp-p, 75 ohm |
| | C input: 0.3 Vp-p, 75 ohm |
| | Video input: 1.0 Vp-p, 75 ohm (RCA pin jack) |
| | Audio input: -8dB, 47 kohm (RCA pin jack) |
| Headphone Jack: | 3.5 mm mini-jack |
| Storage Temperature | -20 °C ~ 60 °C |
| Operating Temperature | 5 °C ~ 40 °C |

**Accessories:**

Remote Control X 1
Batteries (UM-3) X 2

*Design & specification are subject to change without notice.*

# SAFETY PRECAUTIONS

## SERVICING NOTICES ON CHECKING

**1. KEEP THE NOTICES**

As for the places which need special attentions, they are indicated with the labels or seals on the cabinet, chassis and parts. Make sure to keep the indications and notices in the operation manual.

**2. AVOID AN ELECTRIC SHOCK**

There is a high voltage part inside. Avoid an electric shock while the electric current is flowing.

**3. USE THE DESIGNATED PARTS**

The parts in this equipment have the specific characters of incombustibility and withstand voltage for safety. Therefore, the part which is replaced should be used the part which has the same character.
Especially as to the important parts for safety which is indicated in the circuit diagram or the table of parts as a ⚠ mark, the designated parts must be used.

**4. PUT PARTS AND WIRES IN THE ORIGINAL POSITION AFTER ASSEMBLING OR WIRING**

There are parts which use the insulation material such as a tube or tape for safety, or which are assembled in the condition that these do not contact with the printed board. The inside wiring is designed not to get closer to the pyrogenic parts and high voltage parts. Therefore, put these parts in the original positions.

**5. TAKE CARE TO DEAL WITH THE CATHODE-RAY TUBE**

In the condition that an explosion-proof cathode-ray tube is set in this equipment, safety is secured against implosion. However, when removing it or serving from backward, it is dangerous to give a shock. Take enough care to deal with it.

**6. AVOID AN X-RAY**

Safety is secured against an X-ray by considering about the cathode-ray tube and the high voltage peripheral circuit, etc.
Therefore, when repairing the high voltage peripheral circuit, use the designated parts and make sure not modify the circuit.
Repairing except indicates causes rising of high voltage, and it emits an X-ray from the cathode-ray tube.

**7. PERFORM A SAFETY CHECK AFTER SERVICING**

Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the serviced places serviced or not. Check the insulation between the antenna terminal or external metal and the AC cord plug blades. And be sure the safety of that.

**(INSULATION CHECK PROCEDURE)**

1. Unplug the plug from the AC outlet.
2. Remove the antenna terminal on TV and turn on the TV.
3. Insulation resistance between the cord plug terminals and the eternal exposure metal **[Note 2]** should be more than 1M ohm by using the 500V insulation resistance meter **[Note 1]**.
4. If the insulation resistance is less than 1M ohm, the inspection repair should be required.

**[Note 1]**

If you have not the 500V insulation resistance meter, use a Tester.

**[Note 2]**

External exposure metal: Antenna terminal
Earphone jack

## HOW TO ORDER PARTS

Please include the following informations when you order parts. (Particularly the VERSION LETTER.)

1. MODEL NUMBER and VERSION LETTER
   The MODEL NUMBER can be found on the back of each product and the VERSION LETTER can be found at the end of the SERIAL NUMBER.
2. PART NO. and DESCRIPTION
   You can find it in your SERVICE MANUAL.

## IMPORTANT

Inferior silicon grease can damage IC's and transistors.
When replacing an IC's or transistors, use only specified silicon grease (YG6260M).
Remove all old silicon before applying new silicon.

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# SPECIFIC SERVICE INSTRUCTIONS

## DISASSEMBLY INSTRUCTIONS

### 1. REMOVAL OF ANODE CAP

Read the following **NOTED** items before starting work.

* After turning the power off there might still be a potential voltage that is very dangerous. When removing the Anode Cap, make sure to discharge the Anode Cap's potential voltage.
* Do not use pliers to loosen or tighten the Anode Cap terminal, this may cause the spring to be damaged.

**REMOVAL**

1. Follow the steps as follows to discharge the Anode Cap. **(Refer to Fig. 1-1.)**
   Connect one end of an Alligator Clip to the metal part of a flat-blade screwdriver and the other end to ground.
   While holding the plastic part of the insulated Screwdriver, touch the support of the Anode with the tip of the Screwdriver.
   A cracking noise will be heard as the voltage is discharged.

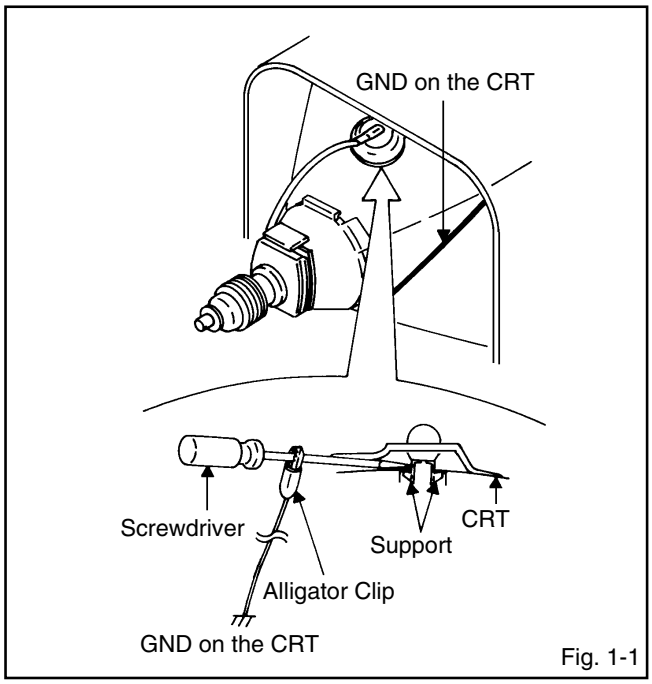


Fig. 1-1

2. Flip up the sides of the Rubber Cap in the direction of the arrow and remove one side of the support. **(Refer to Fig. 1-2.)**

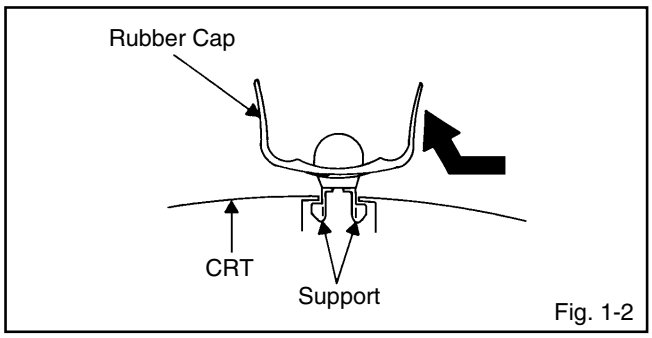


Fig. 1-2

3. After one side is removed, pull in the opposite direction to remove the other.

**NOTE**

Take care not to damage the Rubber Cap.

**INSTALLATION**

1. Clean the spot where the cap was located with a small amount of alcohol. **(Refer to Fig. 1-3.)**

**NOTE**

Confirm that there is no dirt, dust, etc. at the spot where the cap was located.

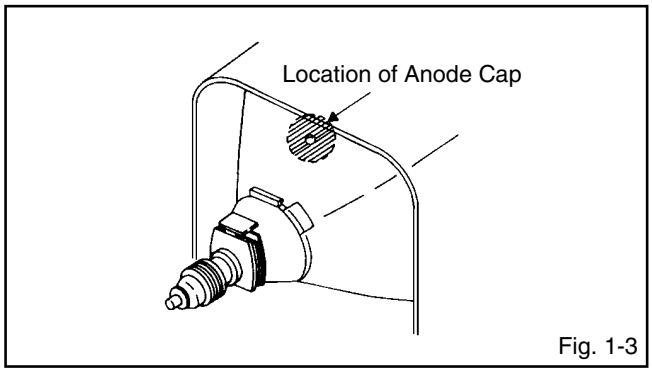


Fig. 1-3

2. Arrange the wire of the Anode Cap and make sure the wire is not twisted.
3. Turn over the Rubber Cap. **(Refer to Fig. 1-4.)**

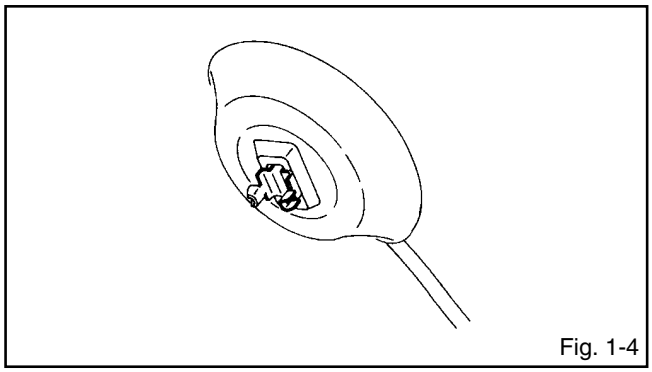


Fig. 1-4

4. Insert one end of the Anode Support into the anode button, then the other as shown in **Fig. 1-5**.

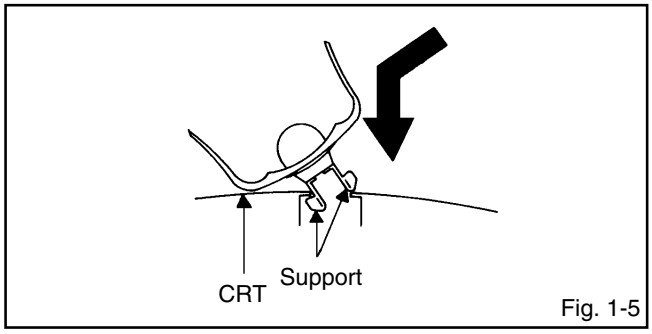


Fig. 1-5

5. Confirm that the Support is securely connected.
6. Put on the Rubber Cap without moving any parts.

# DISASSEMBLY INSTRUCTIONS

## 2. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

**REMOVAL**

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 2-1.)**

   **NOTE**

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

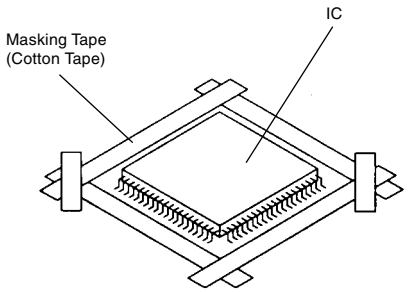



Fig. 2-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 2-2.)**

   **NOTE**

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

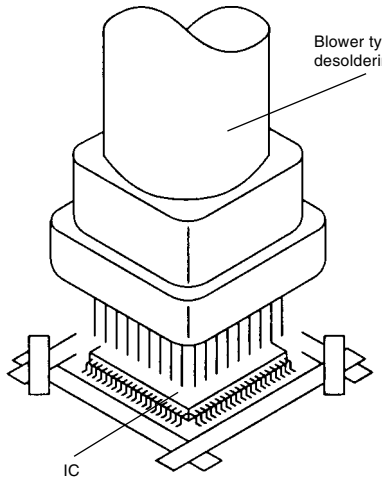



Fig. 2-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 2-3.)**

   **NOTE**

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

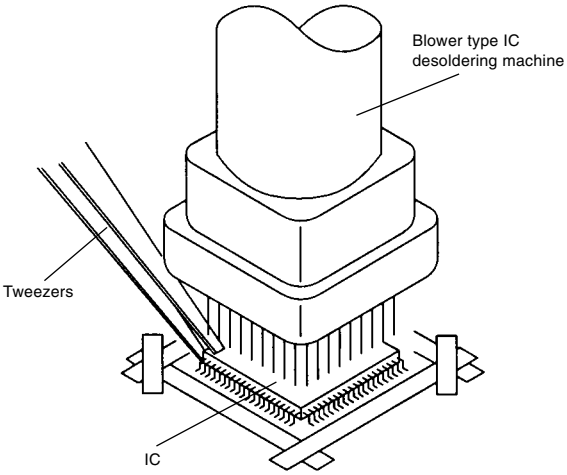



Fig. 2-3

4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 2-4.)**

   **NOTE**

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

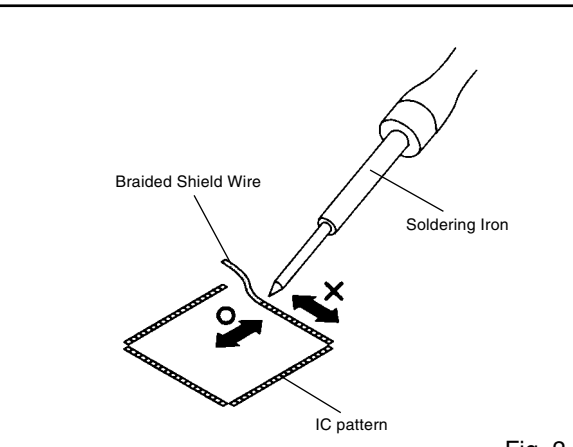



Fig. 2-4

# DISASSEMBLY INSTRUCTIONS

**INSTALLATION**

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 2-5.)**

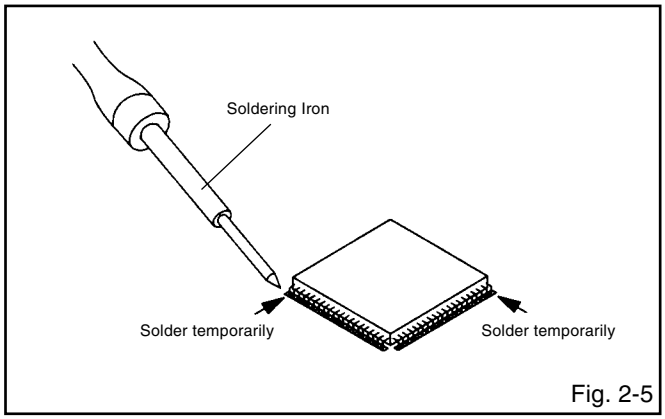


Fig. 2-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 2-6.)**

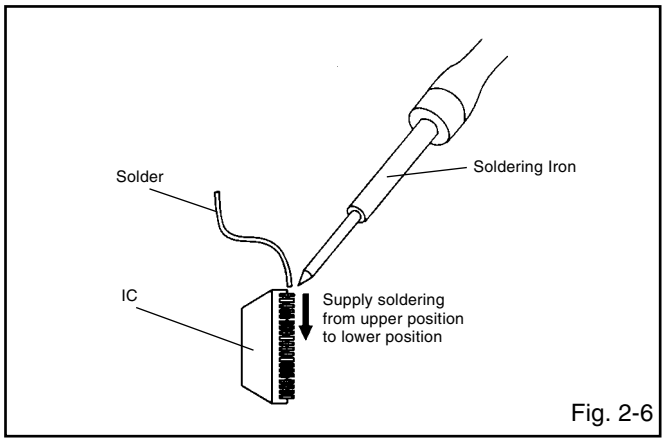


Fig. 2-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 2-7.)**

   **NOTE**

   Do not absorb the solder to excess.

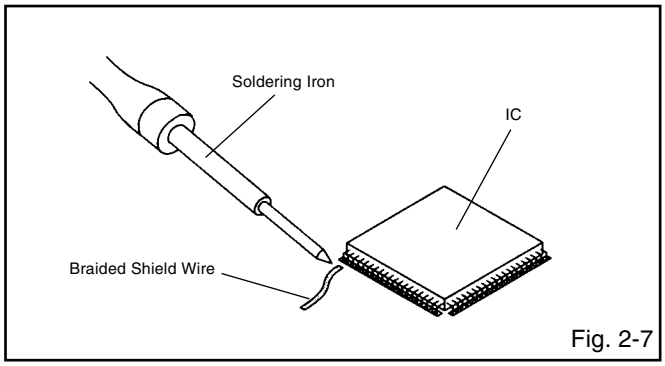


Fig. 2-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 2-8.)**

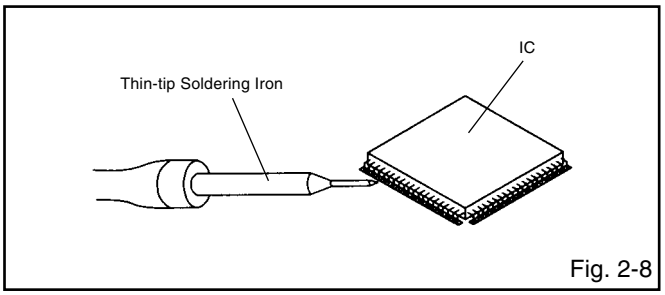


Fig. 2-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   **NOTE**

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

# SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter the Service Mode, press both set key and remote control key for more than 1 second.

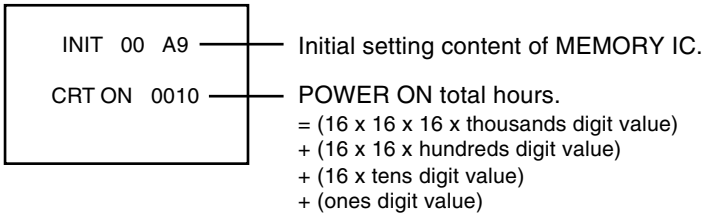
| Set Key | Remocon Key | Operations |
|---|---|---|
| VOL. (-) MIN | 0 | Releasing of V-CHIP PASSWORD. |
| VOL. (-) MIN | 1 | Initialization of the factory.<br>NOTE: Do not use this for the normal servicing.<br>If you set a factory initialization, the memories are reset such as the channel setting, and the POWER ON total hours. |
| VOL. (-) MIN | 3 | Remocon format selection. (JVC format → NEC format)<br>NOTE: Supplied remocon can not be operated at NEC format.<br>(The “N” is always displayed on the monitor.)<br>Do not use this for the normal servicing. |
| VOL. (-) MIN | 6 | POWER ON total hours is displayed on the screen.<br>Refer to the “CONFIRMATION OF HOURS USED.<br><br>Can be checked of the INITIAL DATA of MEMORY IC.<br>Refer to the “WHEN REPLACING EEPROM (MEMORY) IC”. |
| VOL. (-) MIN | 8 | Writing of EEPROM initial data.<br>NOTE: Do not use this for the normal servicing. |
| VOL. (-) MIN | 9 | Display of the Adjustment MENU on the screen.<br>Refer to the “ELECTRICAL ADJUSTMENT” (On-Screen Display Adjustment). |

# CONFIRMATION OF HOURS USED

POWER ON total hours can be checked on the screen.
Total hours are displayed in 16 system of notation.

**NOTE: If you set a factory initialization, the total hours is reset to “0”.**

1. Set the VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second.
3. After the confirmation of using hours, turn off the power.


INIT 00 A9
Initial setting content of MEMORY IC.
CRT ON 0010
POWER ON total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

# WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

| INI | +0 | +1 | +2 | +3 | +4 | +5 | +6 | +7 | +8 | +9 | +A | +B | +C | +D | +E | +F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00 | A9 | C3 | 02 | 00 | 31 | B3 | AF | 37 | BF | 0A | 44 | 04 | 00 | 00 | 00 | 70 |
| 10 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0F | A5 | 45 | 20 |
| 20 | 61 | 63 | 64 | 26 | 67 | 69 | 2B | 6C | 6D | 6E | 6F | 70 | 71 | 72 | 53 | 73 |
| 30 | 54 | 74 | 55 | 75 | 56 | 76 | 76 | 57 | 57 | 77 | 77 | 58 | 58 | 78 | 78 | 59 |
| 40 | 59 | 79 | 79 | 5A | 5A | 7A | 7A | 5B | 5B | 5B | 7B | 7B | 7B | 5C | 5C | 5C |
| 50 | 7C | 7C | 7C | 5D | 5D | 7D | 7D | 5E | 5E | 7E | 7E | 5F | --- | --- | --- | --- |

**Table 1**

1. Enter DATA SET mode by setting VOLUME to minimum.
2. Press both VOL. DOWN button on the set and Channel button **(6)** on the remote control for more than 1 second. ADDRESS and DATA should appear as FIG 1.

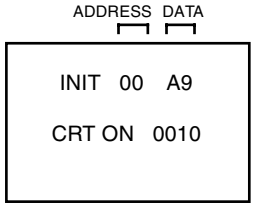



**Fig. 1**

3. ADDRESS is now selected and should “blink”. Using the VOL. UP/DOWN button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press ENTER to select DATA. When DATA is selected, it will “blink”.
5. Again, step through the DATA using VOL. UP/DOWN button until required DATA value has been selected.
6. Pressing ENTER will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

The unit will now have the correct DATA for the new MEMORY IC.

# SERVICE ADJUSTMENTS

## ELECTRICAL ADJUSTMENTS

### 1. ADJUSTMENT PROCEDURE

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

**CAUTION**

- Use an isolation transformer when performing any service on this chassis.
- Before removing the anode cap, discharge electricity because it contains high voltage.
- When removing a PCB or related component, after unfastening or changing a wire, be sure to put the wire back in its original position.
- When you exchange IC and Transistor for a heat sink, apply the silicon grease **(YG6260M)** on the contact section of the heat sink. Before applying new silicon grease, remove all the old silicon grease. (Old grease may cause damages to the IC and Transistor.)

**Prepare the following measurement tools for electrical adjustments.**

1. Oscilloscope
2. Digital Voltmeter

**On-Screen Display Adjustment**

1. In the condition of NO indication on the screen. Press the VOL. DOWN button on the set and the Channel button **(9)** on the remote control for more than 1 second to appear the adjustment mode on the screen as shown in **Fig. 1-1**.

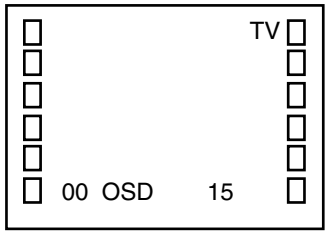



Fig. 1-1

2. Use the Channel UP/DOWN button or Channel button **(0-9)** on the remote control to select the options shown in **Fig. 1-2**.
3. Press the MENU button on the remote control to end the adjustments.

| NO. | FUNCTION | NO. | FUNCTION | NO. | FUNCTION |
|---|---|---|---|---|---|
| 00 | OSD H | 14 | G.BIAS | 28 | RGB CONTRAST |
| 01 | CUT OFF | 15 | B.BIAS | 29 | PARABORA |
| 02 | RF.AGC | 16 | BRI.CENT | 30 | TRAPEZIU |
| 03 | --- | 17 | SUB CONT | 31 | COR TOP |
| 04 | H.POSI | 18 | CONT.MAX | 32 | COR BTM |
| 05 | V.POSI | 19 | CONT.CENT | 33 | V EHT |
| 06 | H.SIZE | 20 | CONT.MIN | 34 | H EHT |
| 07 | V.SIZE | 21 | BRI.MAX | 35 | FM.LVL |
| 08 | V.CENT | 22 | BRI.MIN | 36 | LEVEL |
| 09 | V.LIN | 23 | COL.MAX | 37 | SEP 1 |
| 10 | VS CORR | 24 | COL.CENT | 38 | SEP 2 |
| 11 | G.DRV | 25 | COL.MIN | 39 | T.STE |
| 12 | B.DRV | 26 | TINT | 40 | X-RAY |
| 13 | R.BIAS | 27 | SHARPNESS | 88 | READ DATA |

Fig. 1-2

### 2. BASIC ADJUSTMENTS

**2-1: CONSTANT VOLTAGE**

1. Set condition is AV MODE without signal.
2. Connect the digital voltmeter to the **TP002**.
3. Adjust the **VR502** until the DC voltage is 116 ± 1V.

**2-2: RF AGC**

1. Place the set with Aging Test for more than 15 minutes.
2. Receive the VHF HIGH (63dB).
3. Connect the digital voltmeter between the **pin 5 of CP101** and the **pin 1 (GND) of CP101**.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(02)** on the remote control to select “RF AGC”.
5. Press the VOL. UP/DOWN button on the remote control until the digital voltmeter is 2.1 ± 0.05V.

**2-3: CUT OFF**

1. Adjust the unit to the following settings. G. DRIVE=64, B. DRIVE=64, R. BIAS=64, G. BIAS=64, B. BIAS=64
2. Place the set with Aging Test for more than 15 minutes.
3. Activate the adjustment mode display of **Fig. 1-1** and
4. press the channel button **(01)** on the remote control to select “CUT OFF”.
5. Adjust the **Screen Volume** until a dim raster is obtained.

**2-4: WHITE BALANCE**

**NOTE:** Adjust after performing CUT OFF adjustment.

1. Place the set with Aging Test for more than 10 minutes.
2. Receive the gray scale pattern from the Pattern Generator.
3. Using the remote control, set the brightness and contrast to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(13)** on the remote control to select “R. BIAS”.
5. Press the CH. UP/DOWN button on the remote control to select the “R. BIAS”, “G. BIAS”, “B. BIAS”, “B. DRIVE” or “G. DRIVE”.
6. Adjust the VOL. UP/DOWN button on the remote control to whiten the R. BIAS, G. BIAS, B. BIAS, B. DRIVE, and G. DRIVE at each step tone sections equally.
7. Perform the above adjustments 5 and 6 until the white color is looked like a white.

**2-5: FOCUS**

1. Receive the monoscope pattern.
2. Turn the Focus Volume fully counterclockwise once.
3. Adjust the **Focus Volume** until picture is distinct.

# ELECTRICAL ADJUSTMENTS

### 2-6: HORIZONTAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(04)** on the remote control to select “H. POSI”.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on right and left becomes minimum.

### 2-7: VERTICAL POSITION

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(05)** on the remote control to select “V. POSI”.
4. Press the VOL. UP/DOWN button on the remote control until the horizontal line becomes fit to the notch of the shadow mask.

### 2-8: VERTICAL SIZE

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(07)** on the remote control to select “V. SIZE”.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes 9 ± 2%.

### 2-9: VERTICAL LINEARITY

**NOTE:** Adjust after performing adjustments in section 2-8. After the adjustment of Vertical Linearity, reconfirm the Vertical Position and Vertical Size adjustments.

1. Receive the monoscope pattern.
2. Using the remote control, set the brightness and contrast to normal position.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(09)** on the remote control to select “V. LIN”.
4. Press the VOL. UP/DOWN button on the remote control until the SHIFT quantity of the OVER SCAN on upside and downside becomes minimum.

### 2-10: LEVEL

1. Receive the monoscope pattern (70dB).
2. Connect the AC voltmeter to **pin 6 of CP101** and the **pin 1 (GND) of CP101**.
3. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(36)** on the remote control to select “LEVEL”.
4. Press the VOL. UP/DOWN button on the remote control until the AC voltmeter is 75 ± 2mV.

### 2-11: SUB BRIGHTNESS

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(16)** on the remote control to select “BRI. CENT”.
2. Press the VOL. UP/DOWN button on the remote control until the brightness step No. becomes “50”.
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT button on the remote control to set to the AV mode. Then perform the above adjustments 1~3.
5. Press the INPUT button on the remote control to set to the CS mode. Then perform the above adjustments 1~3.

### 2-12: TINT/COLOR CENT

1. Receive the color bar pattern. (RF Input)
2. Connect the oscilloscope to **TP806**.
3. Using the remote control, set the brightness, contrast, color and tint to normal position.
4. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(26)** on the remote control to select “TINT”.
5. Press the VOL. UP/DOWN button on the remote control until the section “A” becomes a straight line **(Refer to Fig. 2-1)**.
6. Connect the oscilloscope to **TP804**.
7. Press the channel button **(24)** on the remote control to select “COL. CENT”.
8. Adjust the VOLTS RANGE VARIABLE knob of the oscilloscope until the range between white 100% and 0% is set to 4.4 scales on the screen of the oscilloscope.
9. Press the VOL. UP/DOWN button on the remote control until the red color level is adjusted to 115 ± 10% of the white level. **(Refer to Fig. 2-2)**
10. Receive the color bar pattern. (Audio Video Input)
11. Press the INPUT button on the remote control to set to the AV mode. Then perform the above adjustments 2~9.
12. Press the INPUT button on the remote control to set to the CS mode.
13. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(26)** on the remote control to select “TINT”.
14 Press the VOL. UP/DOWN button on the remote control until the tint step No. becomes “50”.
15. Press the channel button **(24)** on the remote control to select “COL. CENT”.
16. Press the VOL. UP/DOWN button on the remote control until the color step No. becomes “62”.
17. Receive a broadcast and check if the picture is normal.

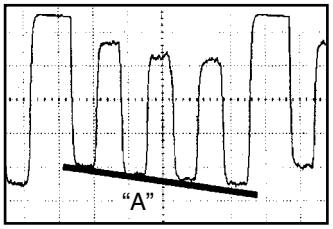



Fig. 2-1

# ELECTRICAL ADJUSTMENTS

Fig. 2-2

### 2-13: CONTRAST MAX MANUAL

1. Activate the adjustment mode display of **Fig. 1-1** and press the channel button **(18)** on the remote control to select “CONT. MAX”.
2. Press the VOL. UP/DOWN button on the remote control until the contrast step No. becomes “85”.
3. Receive a broadcast and check if the picture is normal.
4. Press the INPUT button on the remote control to set to the AV mode. Then perform the above adjustments 1~3.
5. Press the INPUT button on the remote control to set to the CS mode. Then perform the above adjustments 1~3.

### 2-14: OSD HORIZONTAL

1. Activate the adjustment mode display of **Fig. 1-1**.
2. Press the VOL. UP/DOWN button on the remote control until the difference of A and B becomes minimum. **(Refer to Fig. 2-3)**

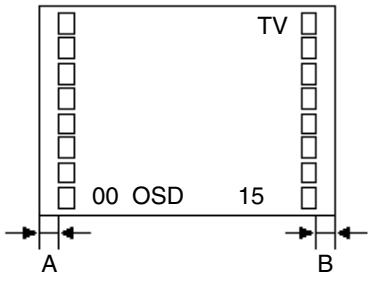


Fig. 2-3

### 2-15: Confirmation of Fixed Value (step No.)

Please check if the fixed values of the each adjustment items are set correctly referring below.

| NO. | FUNCTION | RF | AV | CS |
|---|---|---|---|---|
| 06 | H SIZE | 00 | 00 | 00 |
| 08 | V CENT | 08 | 08 | 08 |
| 10 | VS CORR | 10 | 10 | 10 |
| 17 | SUB CONT | 09 | 09 | 09 |
| 19 | CONT CENT | 60 | 60 | 60 |
| 20 | CONT MIN | 25 | 25 | 25 |
| 21 | BRI MAX | 127 | 127 | 127 |
| 22 | BRI MIN | 20 | 20 | 20 |
| 23 | COL MAX | 110 | 110 | 110 |
| 25 | COL MIN | 00 | 00 | 00 |
| 27 | SHARP | 40 | 40 | 40 |
| 28 | RGB CONTRAST | 38 | 38 | 38 |
| 29 | PARABOLA | 00 | 00 | 00 |
| 30 | TRAPEZIN | 00 | 00 | 00 |
| 31 | COR TOP | 00 | 00 | 00 |
| 32 | COR BTM | 00 | 00 | 00 |
| 33 | V EHT | 00 | 00 | 00 |
| 34 | H EHT | 00 | 00 | 00 |
| 35 | FM LEVEL | 01 | 01 | 01 |
| 39 | T.STE | 00 | 00 | 00 |

# ELECTRICAL ADJUSTMENTS

## 3. PURITY AND CONVERGENCE ADJUSTMENTS

**NOTE**

1. Turn the unit on and let it warm up for at least 30 minutes before performing the following adjustments.
2. Place the CRT surface facing east or west to reduce the terrestrial magnetism.
3. Turn ON the unit and demagnetize with a Degauss Coil.

### 3-1: STATIC CONVERGENCE (ROUGH ADJUSTMENT)

1. Tighten the screw for the magnet. Refer to the adjusted CRT for the position. **(Refer to Fig. 3-1)**
   If the deflection yoke and magnet are in one body, untighten the screw for the body.
2. Receive the green raster pattern from the color bar generator.
3. Slide the deflection yoke until it touches the funnel side of the CRT.
4. Adjust center of screen to green, with red and blue on the sides, using the pair of purity magnets.
5. Switch the color bar generator from the green raster pattern to the crosshatch pattern.
6. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
7. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.
8. Adjust the crosshatch pattern to change to white by repeating steps 6 and 7.

### 3-2: PURITY

**NOTE**

Adjust after performing adjustments in section 3-1.

1. Receive the green raster pattern from color bar generator.
2. Adjust the pair of purity magnets to center the color on the screen.
   Adjust the pair of purity magnets so the color at the ends are equally wide.
3. Move the deflection yoke backward (to neck side) slowly, and stop it at the position when the whole screen is green.
4. Confirm red and blue color.
5. Adjust the slant of the deflection yoke while watching the screen, then tighten the fixing screw.

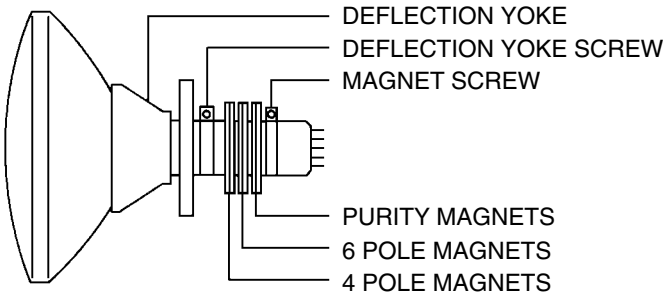



**Fig. 3-1**

### 3-3: STATIC CONVERGENCE

**NOTE**

Adjust after performing adjustments in section 3-2.

1. Receive the crosshatch pattern from the color bar generator.
2. Combine red and blue of the 3 color crosshatch pattern on the center of the screen by adjusting the pair of 4 pole magnets.
3. Combine red/blue (magenta) and green by adjusting the pair of 6 pole magnets.

### 3-4: DYNAMIC CONVERGENCE

**NOTE**

Adjust after performing adjustments in section 3-3.

1. Adjust the differences around the screen by moving the deflection yoke upward/downward and right/left.
   **(Refer to Fig. 3-2-a)**
2. Insert three wedges between the deflection yoke and CRT funnel to fix the deflection yoke.
   **(Refer to Fig. 3-2-b)**

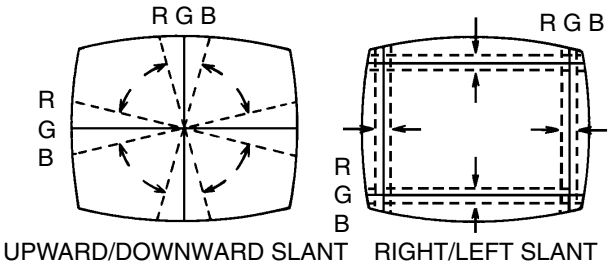



**Fig. 3-2-a**

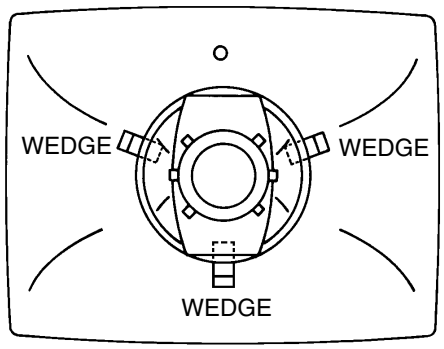
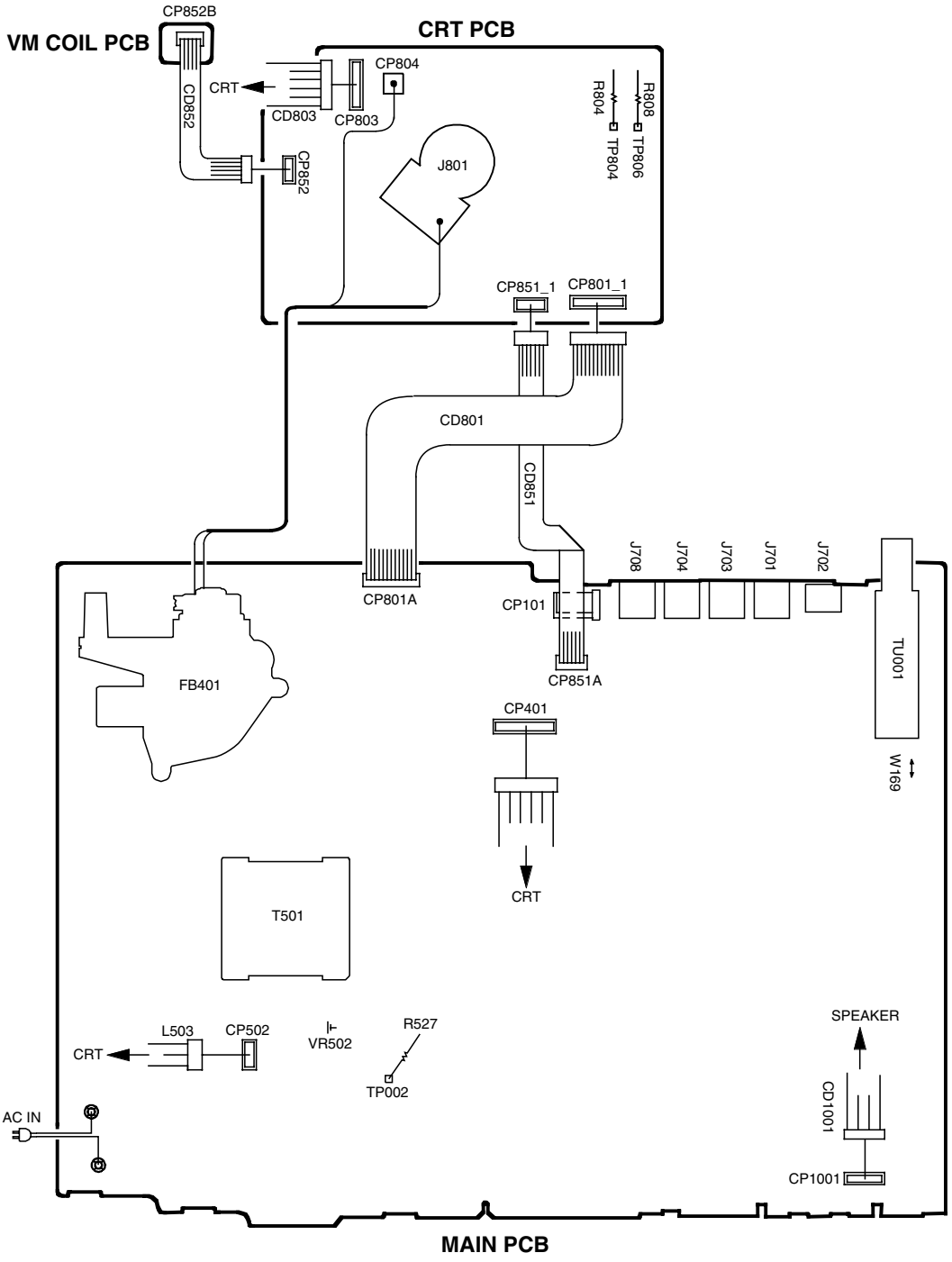



**Fig. 3-2-b**

# ELECTRICAL ADJUSTMENTS

## 4. ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (WIRING CONNECTION)



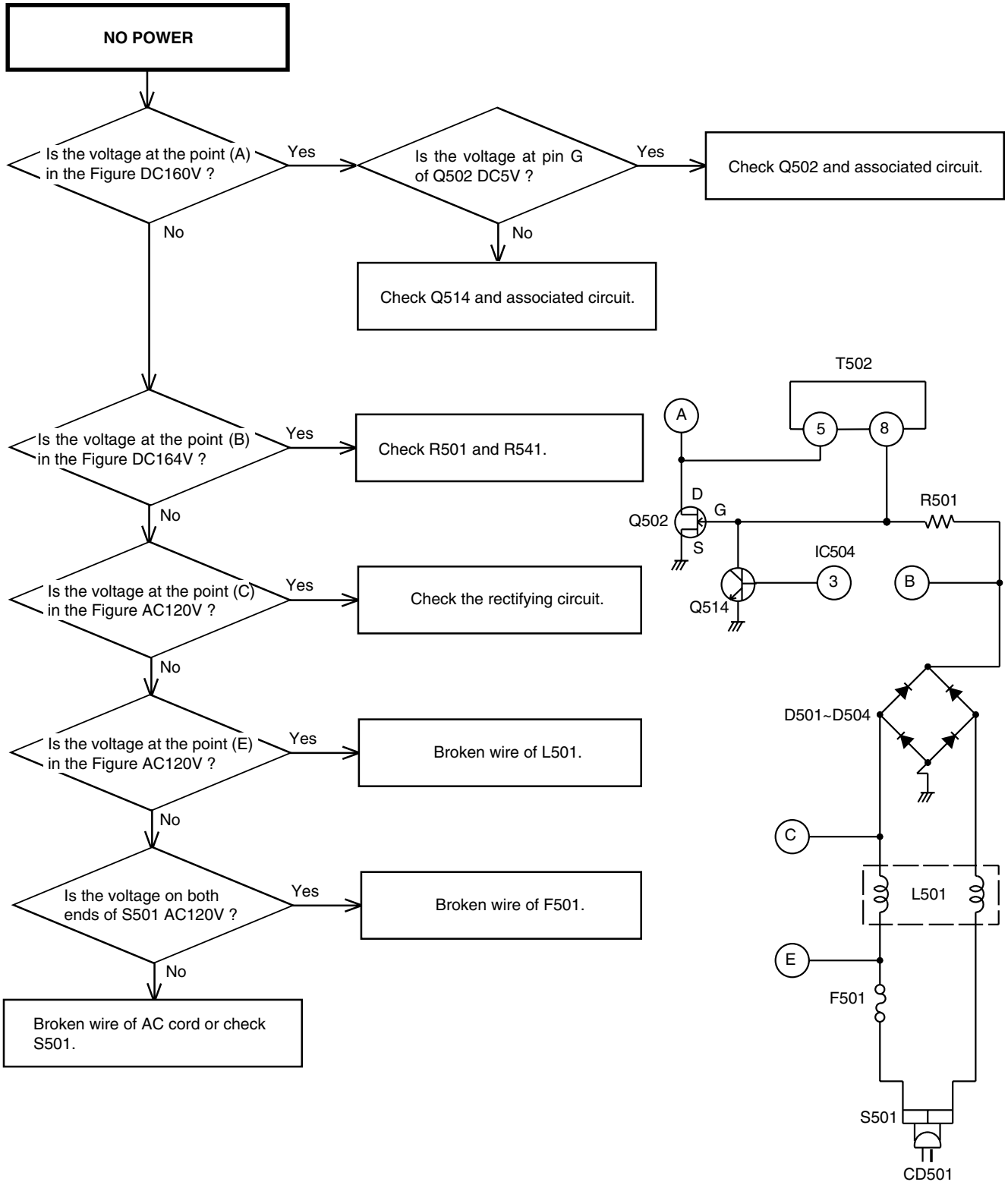
# GUIDE FOR REPAIRING

## IC DESCRIPTION

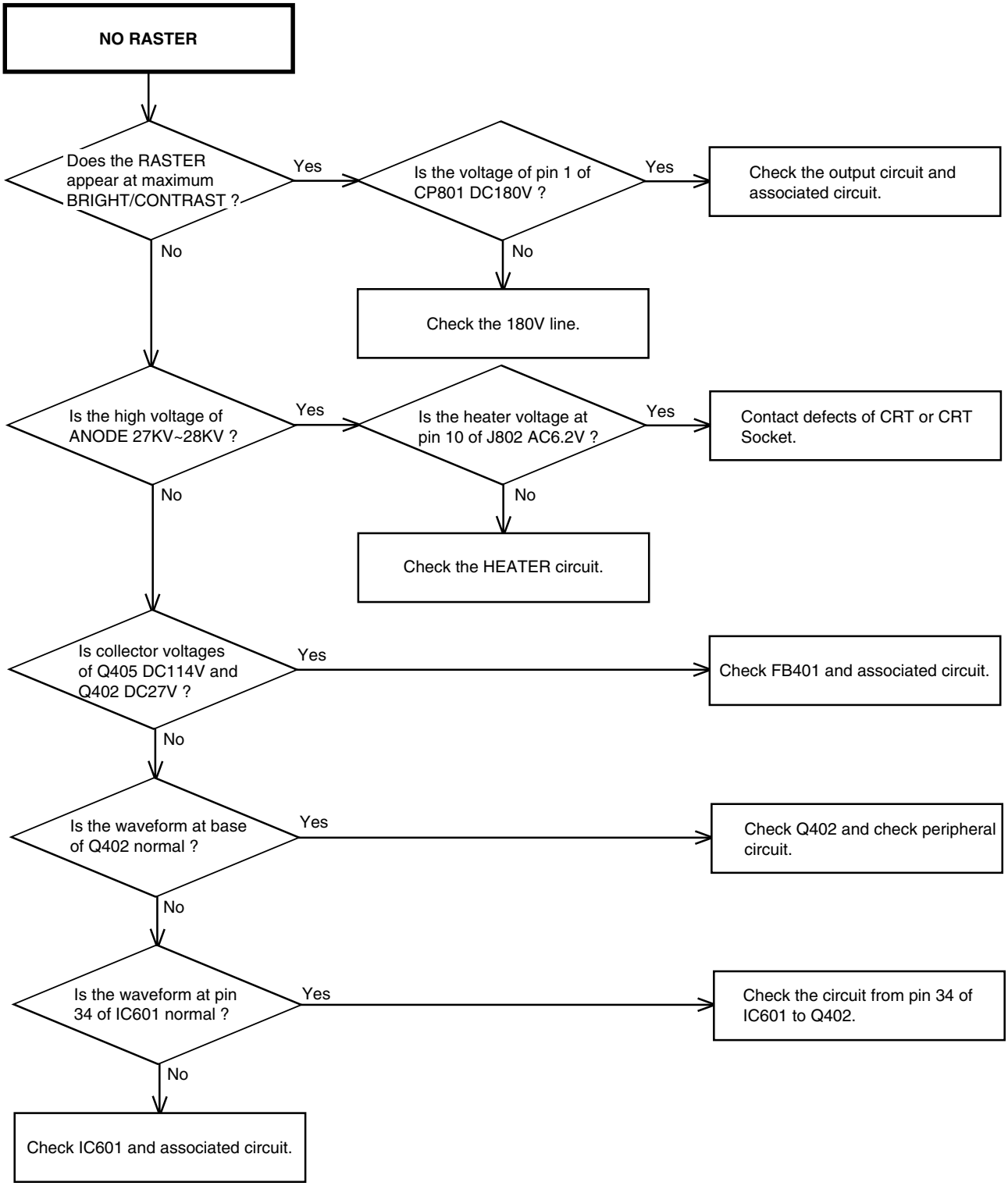
### MAIN PCB OEC7075A (IC101)

| NO. | Pin name | Symbol | I/O | Logic | Function | Option |
|---|---|---|---|---|---|---|
| 1 | P11/SCL1 | AUDIO MUTE | O | 0 | Audio MUTE Output | C-MOS |
| 2 | P00/PM0 | EXT MUTE | O | 1 | Audio MUTE Output for external Output | Nch-OD |
| 3 | P01/PWM1 | STANDBY_H | O | 1 | Output HIGH at a teleevision power off. | Nch-OD |
| 4 | P02/PWM2 | BBE-H | O | | BBE Control Output | Nch-OD |
| 5 | P03/PWM3/AD1 | AFT | I | | Voltage of tuning input | Nch-OD |
| 6 | P04/PWM4/AD2 | KEY1 | I | | Main unit key input | Nch-OD |
| 7 | P05/AD3 | KEY2 | I | | Main unit key input | Nch-OD |
| 8 | P06/INT2/AD4 | X-RAY | I | | Input terminal of X-RAY detection. | Nch-OD |
| 9 | P07/INT1 | REMOCON | I | | Remote control input | Nch-OD |
| 10 | P20/SCLK/AD5 | ONTIMER LED | O | | ON-TIMER LED control output. | C-MOS |
| 11 | P21/AOUT/AD6 | | O | | | C-MOS |
| 12 | P22/SIN/AD7 | AV2 | O | | External SW output2 | C-MOS |
| 13 | P23/TIM3 | AV1 | O | | External SW output1 | C-MOS |
| 14 | P24/TIM2 | | O | | | C-MOS |
| 15 | P25/INT3 | POWER FAIL | I | 0 | Power failure detector input | C-MOS |
| 16 | P26/XCIN | DEGAUSS_H | O | 1 | Degauss output | C-MOS |
| 17 | P27/XCOUT | X-RAY_TEST | O | 1 | X-RAY detector input | C-MOS |
| 18 | CNVSS | CNVSS | | | GND | |
| 19 | XIN | Xin | I | | Main Oscillation | |
| 20 | XOUT | Xout | O | | Main Oscillation | |
| 21 | VSS | VSS | | | GND | |
| 22 | VCC | VCC | | | 5V | |
| 23 | FILT | FILT | | S | | |
| 24 | HLF | HLF | O | | Filter of slicer | |
| 25 | VHOLD | V.HOLD | I | | Condenser of slicer | |
| 26 | CVIN | CVIN | I | | Video signal input | |
| 27 | RESET | RESET | I | 0 | Reset signal input | |
| 28 | FSCIN | (FSCIN) | I | | (Main Clock Occurrence circuit input) | |
| 29 | PONCONT/P15 | POWER | O | 1 | Power control output. | C-MOS |
| 30 | P31/SCL3 | SCL1 | O | | Serial clock output (IIC BUS) | C-MOS |
| 31 | P30/SDA3 | SDA1 | I/O | | Serial data input/output | C-MOS |
| 32 | CLKCONT/P10 | (CLOCK CONT) | O | | (Main Clock Request output) | C-MOS |
| 33 | P55/OUT | BRANK | O | 1 | BLANK Output for OSD/CCD | C-MOS |
| 34 | P54/R | RED R | O | 1 | Red output of RGB image output | C-MOS |
| 35 | P53/G | GREEN G | O | 1 | Green output of RGB image output | C-MOS |
| 36 | P52/B | BLUE B | O | 1 | Blue output of RGB image output | C-MOS |
| 37 | P51/VSYNC | V.SYNC | I | 0 | Vertical synchronization input | |
| 38 | P50/HSYNC | H.SYNC | I | 0 | Horizontal synchronization input | |
| 39 | P16/AD8/TIM2 | SYNC | I | | Input terminal for H-SYNC. | C-MOS |
| 40 | P14/SDA2 | IIC_OFF | I | 0 | Serial clock/data stop input | C-MOS |
| 41 | P13/SDA1 | PROTECT | O | 1 | Output HIGH at turning off a television. | C-MOS |
| 42 | P12/SCL2 | H_CTL | O | 1 | Output HIGH at turning off a television. | C-MOS |

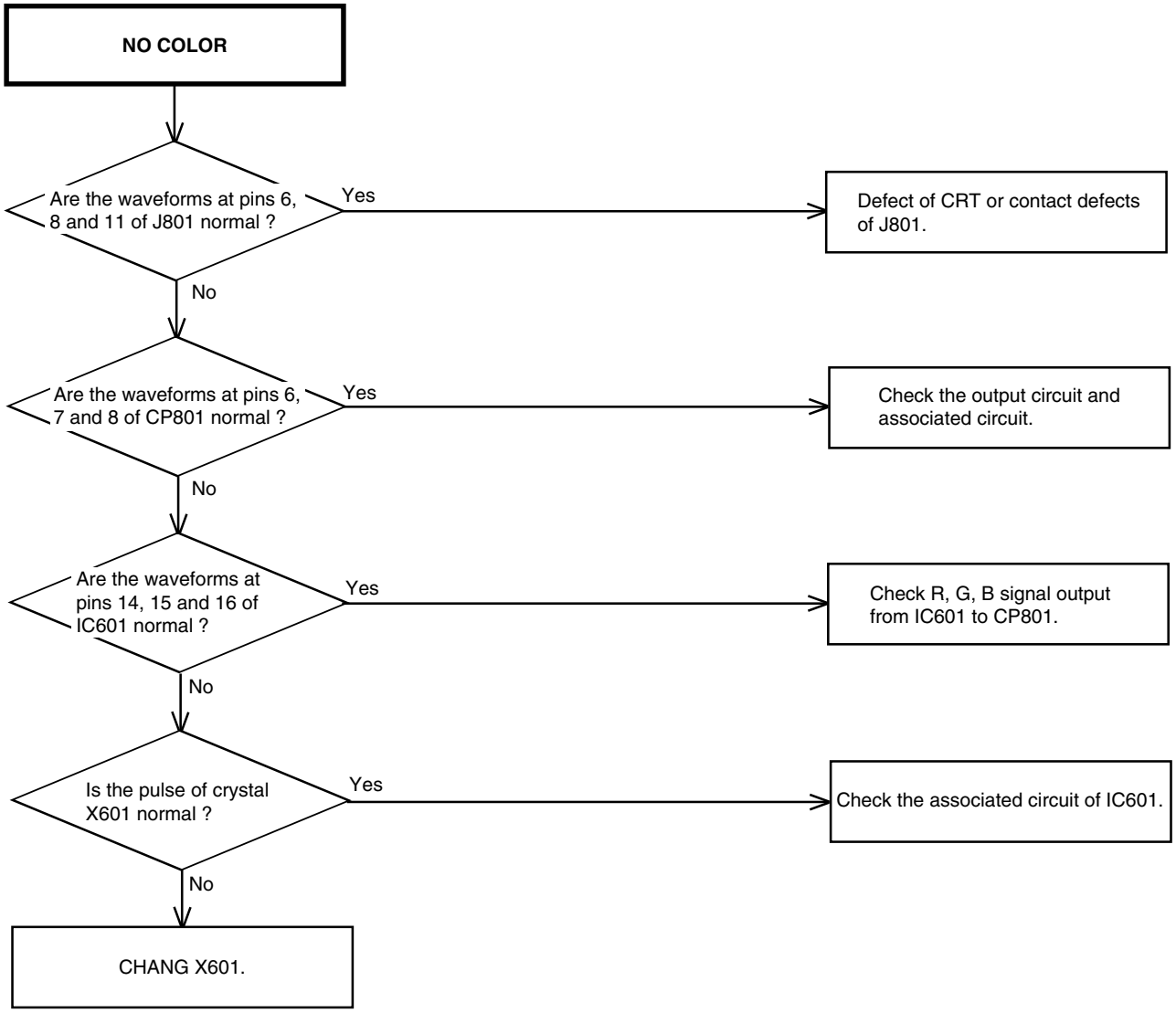
# TROUBLESHOOTING GUIDE



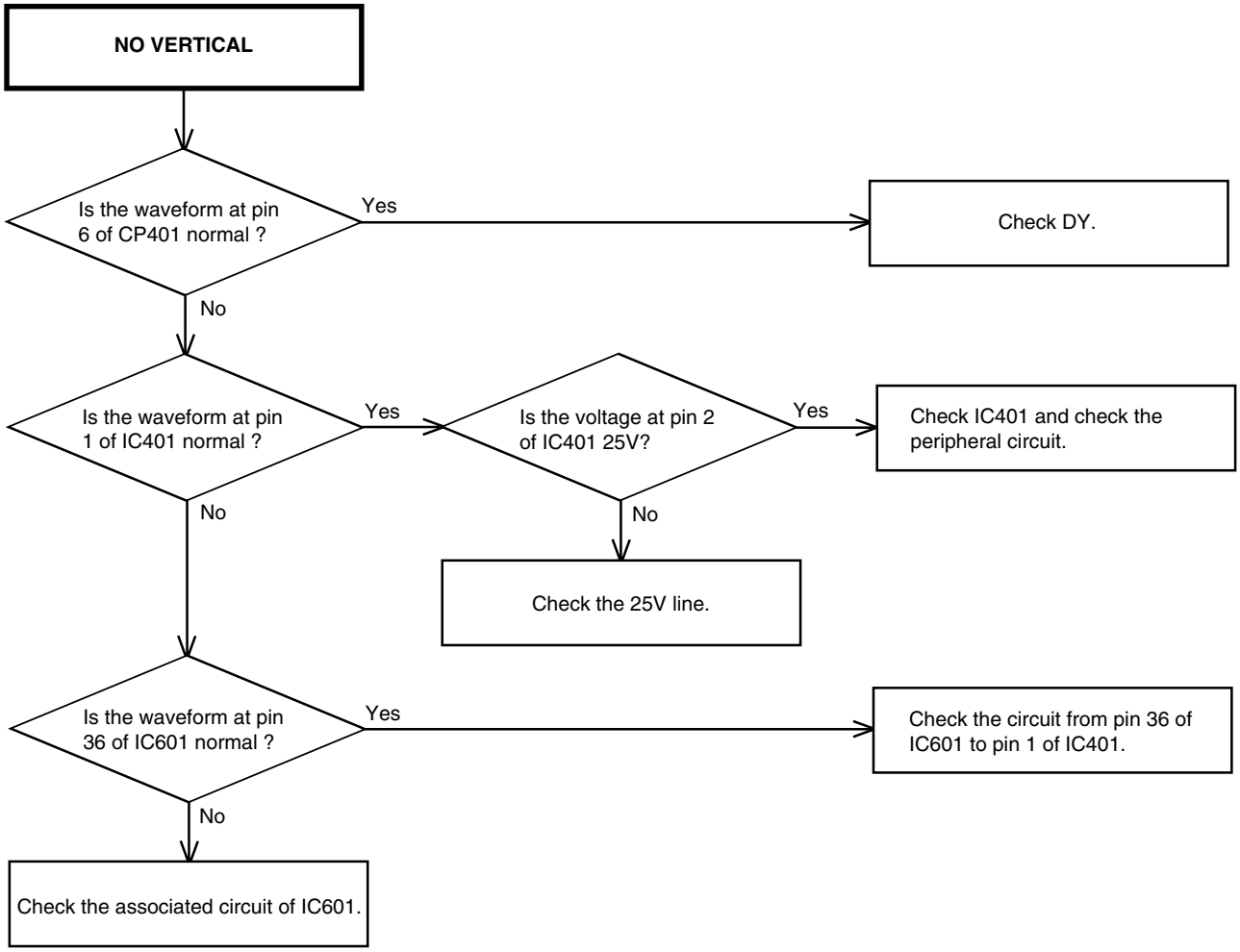
# TROUBLESHOOTING GUIDE


NO RASTER
Does the RASTER appear at maximum BRIGHT/CONTRAST ?
Yes
Is the voltage of pin 1 of CP801 DC180V ?
Yes
Check the output circuit and associated circuit.
No
No
Check the 180V line.
Is the high voltage of ANODE 27KV~28KV ?
Yes
Is the heater voltage at pin 10 of J802 AC6.2V ?
Yes
Contact defects of CRT or CRT Socket.
No
No
Check the HEATER circuit.
Is collector voltages of Q405 DC114V and Q402 DC27V ?
Yes
Check FB401 and associated circuit.
No
Is the waveform at base of Q402 normal ?
Yes
Check Q402 and check peripheral circuit.
No
Is the waveform at pin 34 of IC601 normal ?
Yes
Check the circuit from pin 34 of IC601 to Q402.
No
Check IC601 and associated circuit.

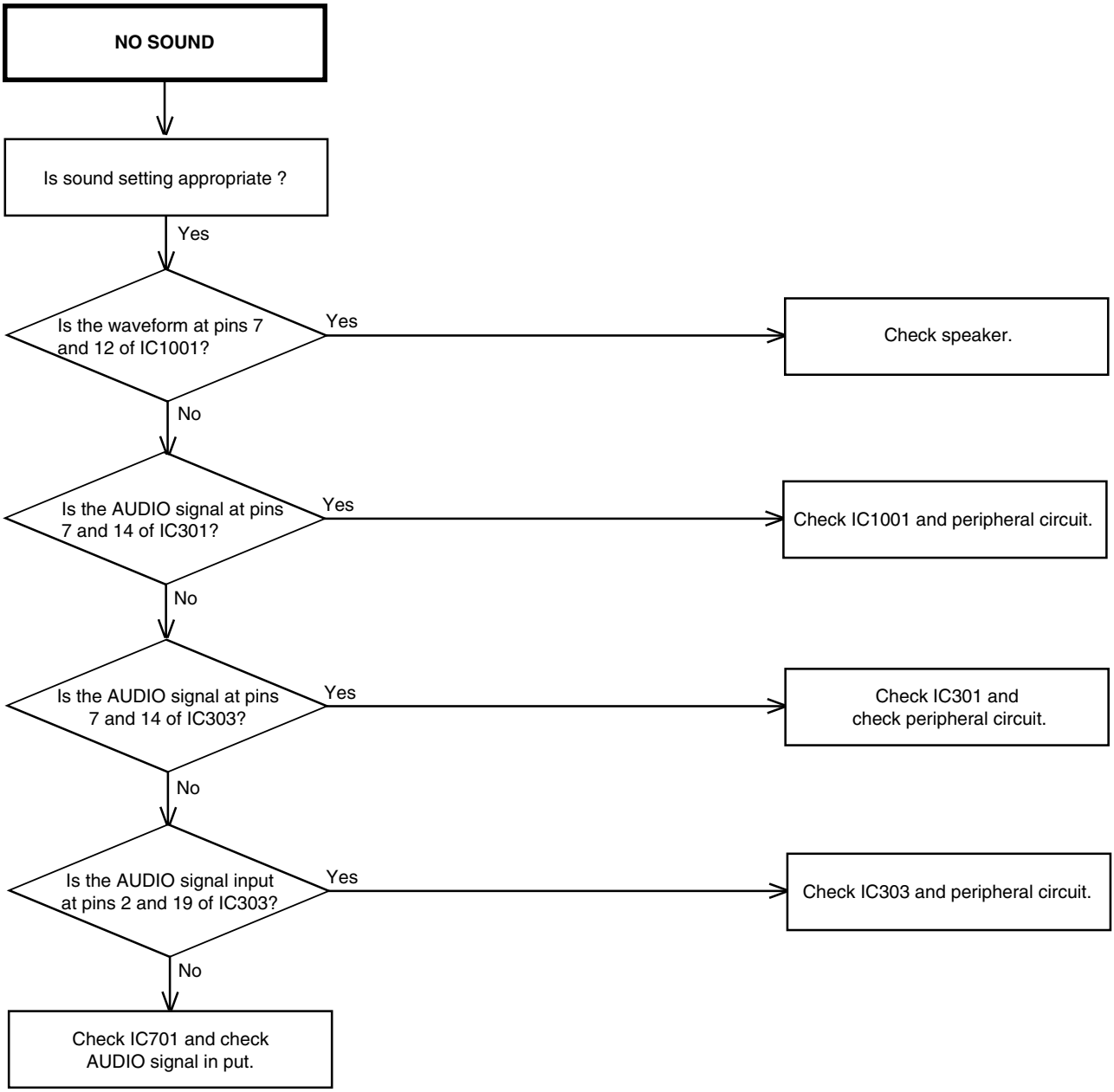
# TROUBLESHOOTING GUIDE


NO COLOR
Are the waveforms at pins 6, 8 and 11 of J801 normal ?
Yes
Defect of CRT or contact defects of J801.
No
Are the waveforms at pins 6, 7 and 8 of CP801 normal ?
Yes
Check the output circuit and associated circuit.
No
Are the waveforms at pins 14, 15 and 16 of IC601 normal ?
Yes
Check R, G, B signal output from IC601 to CP801.
No
Is the pulse of crystal X601 normal ?
Yes
Check the associated circuit of IC601.
No
CHANG X601.

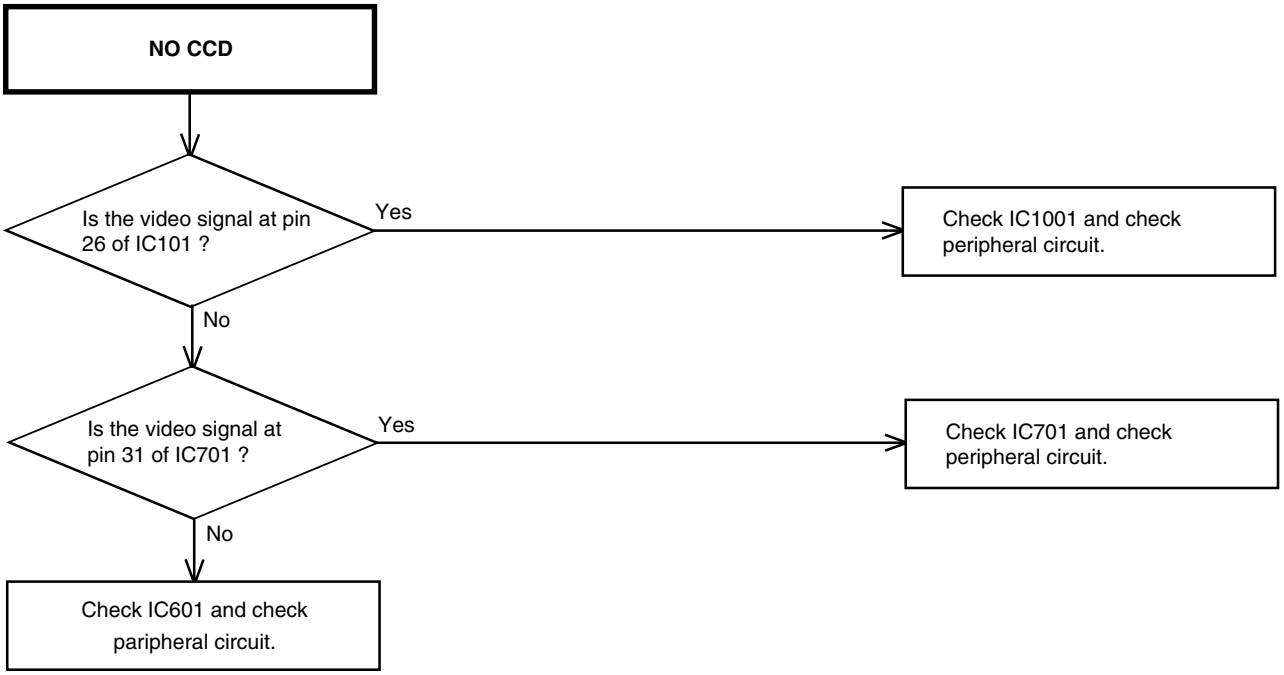
# TROUBLESHOOTING GUIDE


NO VERTICAL
Is the waveform at pin 6 of CP401 normal ?
Yes
Check DY.
No
Is the waveform at pin 1 of IC401 normal ?
Yes
Is the voltage at pin 2 of IC401 25V?
Yes
Check IC401 and check the peripheral circuit.
No
No
Check the 25V line.
Is the waveform at pin 36 of IC601 normal ?
Yes
Check the circuit from pin 36 of IC601 to pin 1 of IC401.
No
Check the associated circuit of IC601.

# TROUBLESHOOTING GUIDE


NO SOUND
Is sound setting appropriate ?
Yes
Is the waveform at pins 7 and 12 of IC1001?
Yes
Check speaker.
No
Is the AUDIO signal at pins 7 and 14 of IC301?
Yes
Check IC1001 and peripheral circuit.
No
Is the AUDIO signal at pins 7 and 14 of IC303?
Yes
Check IC301 and check peripheral circuit.
No
Is the AUDIO signal input at pins 2 and 19 of IC303?
Yes
Check IC303 and peripheral circuit.
No
Check IC701 and check AUDIO signal in put.

# TROUBLESHOOTING GUIDE


NO CCD
Is the video signal at pin 26 of IC101 ?
Yes
Check IC1001 and check peripheral circuit.
No
Is the video signal at pin 31 of IC701 ?
Yes
Check IC701 and check peripheral circuit.
No
Check IC601 and check paripheral circuit.

# PARTS LIST

## CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .

### ABBREVIATIONS OF RESISTORS, CAPACITORS

### RESISTOR

| | |
|---|---|
| RC..... | CARBON RESISTOR |
| MG R..... | METAL GLAZED RESISTOR |

### CAPACITORS

| | |
|---|---|
| CC..... | CERAMIC CAPACITOR |
| CE..... | ALUMI ELECTROLYTIC CAPACITOR |
| CP..... | POLYESTER CAPACITOR |
| CPP..... | POLYPROPYLENE CAPACITOR |
| CPL..... | PLASTIC CAPACITOR |
| CMP..... | METAL POLYESTER CAPACITOR |
| CMPL..... | METAL PLASTIC CAPACITOR |
| CMPP..... | METAL POLYPROPYLENE CAPACITOR |

## CONTENTS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- ELECTRICAL REPLACEMENT PARTS LIST ..... 24
- PACKING & ACCESSORY REPLACEMENT PARTS LIST ..... 30

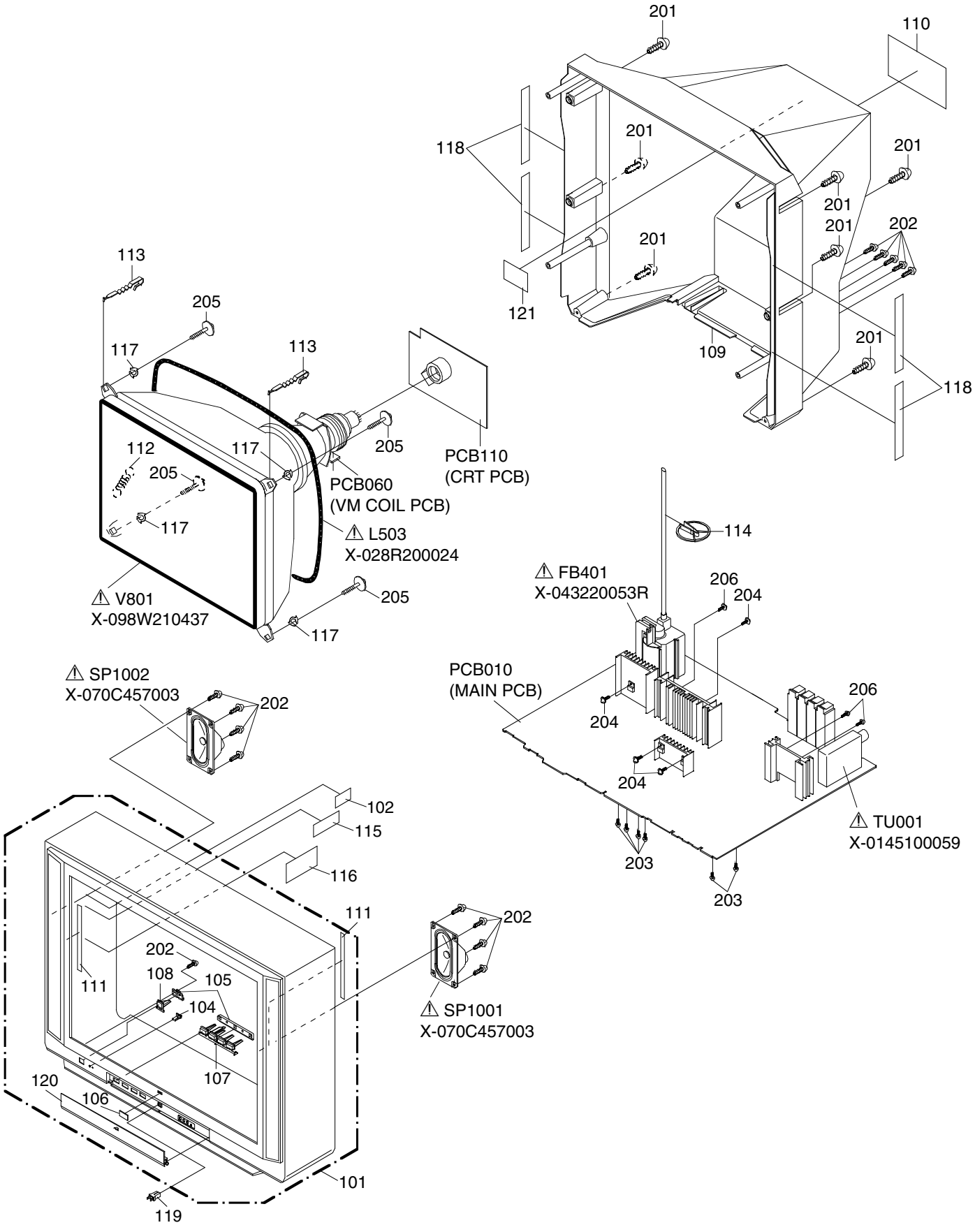

## USING P.W. BOARD

| Model / P.W.B ASS'Y | AV-20F703 |
|---|---|
| MAIN PCB ASS'Y | X-A3K6060010 |
| VM COIL PCB ASS'Y | X-A3K6060060 |
| CRT PCB ASS'Y | X-A3K6060110 |

# MECHANICAL REPLACEMENT PARTS LIST

| ⚠ Ref.No. | Part No. | Part Name | Description |
|---|---|---|---|
| 101 | X-A3K6060720 | CABINET,FRONT ASSY | |
| 102 | X-7230006818 | SHEET,CAUTION | |
| 104 | X-713WPA0140 | GLASS,LED | |
| 105 | X-735WPA0538 | BUTTON,HOLDER | |
| 106 | X-7235380003 | BRAND,BADGE | |
| 107 | X-735WPA0539 | BUTTON,CHANNEL/VOLUME | |
| 108 | X-735WPB0102 | BUTTON,POWER | |
| 109 | X-702WPAA270 | CABINET,BACK | |
| 110 | X-722538A019 | SHEET,RATING | |
| 111 | X-800WQ0A008 | FELT SHEET | |
| 112 | X-741WUA0001 | SPRING,EARTH | |
| 113 | X-762WPA0011 | HOLDER,CRT WIRE | |
| 114 | X-899HV3T000 | HOLDER,ANODE WIRE | |
| 115 | X-7220001107 | SHEET,HWC | |
| 116 | X-7220001119 | SHEET,CSA WARNING | |
| 117 | X-769WSA0011 | WASHER CRT T = 0.5 | |
| 118 | X-800WQ00039 | FELT SHEET | |
| 119 | X-890LA20000 | NC LATCH(LA-2) | |
| 120 | X-712WPB0066 | DOOR | |
| 121 | X-726000A027 | SHEET,CRT | |
| 201 | X-8117540A64 | SCREW,TAPPING(B0) TRUSS | 4x16 |
| 202 | X-8110630A04 | SCREW,TAP TITE(P) BRAZIER | 3x10 |
| 203 | X-8109630802 | SCREW,TAP TITE(B) BRAZIER | 3x8 |
| 204 | X-8109I30A04 | SCREW,TAP TITE(B) WH7 | 3x10 |
| 205 | X-8111J50D05 | SCREW,TAPPING(A) GW22 | 5x35 |
| 206 | X-8107630804 | SCREW,TAP TITE(S) BRAZIER | 3x8 |

# MECHANICAL EXPLODED VIEW



# ELECTRICAL REPLACEMENT PARTS LIST

## MAIN PCB ASS'Y

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | PCB010 | X-A3K6060010 | MAIN PCB ASS'Y | TMA532B |

### VARIABLE RESISTORS

| | | | | |
|---|---|---|---|---|
| | VR502 | X-V1163H4BTC | VOLUME,SEMI FIXED | EVNCYAA03BE4 |

### RESISTORS

| | | | | | |
|---|---|---|---|---|---|
| | R001 | QRE121J-683Y | RC | 68kΩ | 1/2W |
| | R002 | QRE121J-683Y | RC | 68kΩ | 1/2W |
| | R003 | NRSA02J-334X | MG R | 330kΩ | 1/10W |
| | R006 | NRSA02J-271X | MG R | 270Ω | 1/10W |
| | R007 | NRSA02J-271X | MG R | 270Ω | 1/10W |
| | R101 | NRSA02J-561X | MG R | 560Ω | 1/10W |
| | R102 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R103 | NRSA02J-105X | MG R | 1MΩ | 1/10W |
| | R104 | NRSA02J-561X | MG R | 560Ω | 1/10W |
| | R106 | QRE141J-101Y | RC | 100Ω | 1/4W |
| | R108 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R109 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R111 | NRSA02J-470X | MG R | 47Ω | 1/10W |
| | R112 | QRE141J-101Y | RC | 100Ω | 1/4W |
| | R114 | NRSA02J-222X | MG R | 2.2kΩ | 1/10W |
| | R115 | NRSA02J-473X | MG R | 47kΩ | 1/10W |
| | R116 | NRSA02J-222X | MG R | 2.2kΩ | 1/10W |
| | R119 | NRSA02J-473X | MG R | 47kΩ | 1/10W |
| | R121 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R122 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R123 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R124 | NRSA02J-473X | MG R | 47kΩ | 1/10W |
| | R125 | NRSA02J-473X | MG R | 47kΩ | 1/10W |
| | R126 | NRSA02J-272X | MG R | 2.7kΩ | 1/10W |
| | R127 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R128 | QRE141J-333Y | RC | 33kΩ | 1/4W |
| | R129 | NRSA02J-392X | MG R | 3.9kΩ | 1/10W |
| | R130 | NRSA02J-821X | MG R | 820Ω | 1/10W |
| | R131 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R132 | NRSA02J-333X | MG R | 33kΩ | 1/10W |
| | R133 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R134 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R138 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R139 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R140 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R141 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R142 | QRE141J-103Y | RC | 10kΩ | 1/4W |
| | R144 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R146 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R147 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R148 | QRE141J-102Y | RC | 1kΩ | 1/4W |
| | R149 | QRE141J-102Y | RC | 1kΩ | 1/4W |
| | R150 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R151 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R155 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R156 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R157 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R201 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R202 | NRSA02J-102X | MG R | 1kΩ | 1/10W |
| | R203 | NRSA02J-122X | MG R | 1.2kΩ | 1/10W |
| | R204 | NRSA02J-221X | MG R | 220Ω | 1/10W |
| | R205 | NRSA02J-101X | MG R | 100Ω | 1/10W |
| | R209 | NRSA02J-333X | MG R | 33kΩ | 1/10W |
| | R210 | NRSA02J-221X | MG R | 220Ω | 1/10W |
| | R211 | NRSA02J-222X | MG R | 2.2kΩ | 1/10W |
| | R212 | NRSA02J-332X | MG R | 3.3kΩ | 1/10W |
| | R213 | NRSA02J-471X | MG R | 470Ω | 1/10W |
| | R214 | NRSA02J-681X | MG R | 680Ω | 1/10W |
| | R215 | NRSA02J-471X | MG R | 470Ω | 1/10W |
| | R217 | NRSA02J-682X | MG R | 6.8kΩ | 1/10W |
| | R218 | NRSA02J-222X | MG R | 2.2kΩ | 1/10W |
| | R219 | NRSA02J-391X | MG R | 390Ω | 1/10W |
| | R220 | NRSA02J-121X | MG R | 120Ω | 1/10W |
| | R221 | QRE141J-221Y | RC | 220Ω | 1/4W |
| | R223 | NRSA02J-271X | MG R | 270Ω | 1/10W |
| | R299 | X-R00106154J | RC | 150kΩ | 1/6W |
| | R301 | NRSA02J-203X | MG R | 20kΩ | 1/10W |
| | R302 | NRSA02J-203X | MG R | 20kΩ | 1/10W |
| | R303 | NRSA02J-203X | MG R | 20kΩ | 1/10W |
| | R304 | NRSA02J-203X | MG R | 20kΩ | 1/10W |
| | R305 | NRSA02J-103X | MG R | 10kΩ | 1/10W |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|

### RESISTORS

| | | | | | |
|---|---|---|---|---|---|
| | R314 | NRSA02J-682X | MG R | 6.8kΩ | 1/10W |
| | R319 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R320 | NRSA02J-682X | MG R | 6.8kΩ | 1/10W |
| | R321 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R322 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R323 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| | R324 | NRSA02J-182X | MG R | 1.8kΩ | 1/10W |
| | R325 | NRSA02J-182X | MG R | 1.8kΩ | 1/10W |
| | R326 | QRE141J-101Y | RC | 100Ω | 1/4W |
| | R327 | NRSA02J-104X | MG R | 100kΩ | 1/10W |
| | R328 | NRSA02J-101X | MG R | 100Ω | 1/10W |
| | R330 | QRE141J-103Y | RC | 10kΩ | 1/4W |
| | R331 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R333 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R335 | QRE141J-102Y | RC | 1kΩ | 1/4W |
| | R403 | NRSA02J-331X | MG R | 330Ω | 1/10W |
| | R406 | X-R0L2U2221J | RC | 220Ω | 1/2W |
| | R407 | NRSA02J-472X | MG R | 4.7kΩ | 1/10W |
| ⚠ | R410 | X-R3X18A221J | R,METAL OXIDE | 220Ω | 2W |
| | R412 | NRSA02J-682X | MG R | 6.8kΩ | 1/10W |
| | R413 | X-R4X5T6153F | R,METAL | 15kΩ | 1/6W |
| | R414 | X-R4X5T6393F | R,METAL | 39kΩ | 1/6W |
| | R415 | NRSA02J-821X | MG R | 820Ω | 1/10W |
| ⚠ | R416 | X-R002T23R9J | RC | 3.9Ω | 1/2W |
| | R417 | NRSA02J-333X | MG R | 33kΩ | 1/10W |
| ⚠ | R420 | X-R002T23R9J | RC | 3.9Ω | 1/2W |
| | R421 | X-R0L2U2681J | RC | 680Ω | 1/2W |
| ⚠ | R426 | X-R4X5T6472F | R,METAL | 4.7kΩ | 1/6W |
| | R427 | QRE121J-102Y | RC | 1kΩ | 1/2W |
| | R428 | QRE141J-101Y | RC | 100Ω | 1/4W |
| | R429 | QRE121J-681Y | RC | 680Ω | 1/2W |
| | R430 | QRE121J-683Y | RC | 68kΩ | 1/2W |
| | R432 | QRE121J-822Y | RC | 8.2kΩ | 1/2W |
| | R433 | QRE121J-681Y | RC | 680Ω | 1/2W |
| ⚠ | R436 | X-R4X5T6183F | R,METAL | 18kΩ | 1/6W |
| | R437 | QRE121J-4R7Y | RC | 4.7Ω | 1/2W |
| ⚠ | R438 | X-R6558A2R7J | R,FUSE | 2.7Ω | 2W |
| ⚠ | R439 | X-R3X181102J | R,METAL OXIDE | 1kΩ | 1W |
| ⚠ | R441 | X-R4X5T6153F | R,METAL | 15kΩ | 1/6W |
| | R442 | QRE141J-222Y | RC | 2.2kΩ | 1/4W |
| | R443 | QRE121J-683Y | RC | 68kΩ | 1/2W |
| ⚠ | R452 | X-R3X181151J | R,METAL OXIDE | 150Ω | 1W |
| | R453 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R454 | QRE121J-221Y | RC | 220Ω | 1/2W |
| ⚠ | R500 | X-R0G3K2275K | RC | 2.7MΩ | 1/2W |
| ⚠ | R501 | X-R5Y2CE1R2J | R,CEMENT | 1.2Ω | 7W |
| ⚠ | R502 | X-R3X28A331J | R,METAL OXIDE | 330Ω | 2W |
| | R505 | QRE141J-103Y | RC | 10kΩ | 1/4W |
| | R507 | X-R0L2U2563J | RC | 56kΩ | 1/2W |
| | R508 | QRE141J-682Y | RC | 6.8kΩ | 1/4W |
| | R510 | NRSA02J-101X | MG R | 100Ω | 1/10W |
| | R511 | NRSA02J-223X | MG R | 22kΩ | 1/10W |
| | R512 | QRE141J-102Y | RC | 1kΩ | 1/4W |
| | R513 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| | R515 | QRE141J-103Y | RC | 10kΩ | 1/4W |
| | R516 | NRSA02J-103X | MG R | 10kΩ | 1/10W |
| ⚠ | R517 | X-R3X28B010J | R,METAL | 1Ω | 3W |
| | R518 | QRE121J-155Y | RC | 1.5MΩ | 1/2W |
| | R519 | QRE121J-102Y | RC | 1kΩ | 1/2W |
| | R520 | QRE141J-391Y | RC | 390Ω | 1/4W |
| ⚠ | R521 | X-R3X18A270J | R,METAL OXIDE | 27Ω | 2W |
| ⚠ | R522 | X-R3X18A270J | R,METAL OXIDE | 27Ω | 2W |
| | R524 | NRSA02J-222X | MG R | 2.2kΩ | 1/10W |
| | R525 | NRSA02J-473X | MG R | 47kΩ | 1/10W |
| ⚠ | R527 | X-R3X18AR68J | R,METAL OXIDE | 0.68Ω | 2W |
| | R532 | NRSA02J-152X | MG R | 1.5kΩ | 1/10W |
| | R533 | NRSA02J-271X | MG R | 270Ω | 1/10W |
| | R535 | QRE141J-103Y | RC | 10kΩ | 1/4W |
| | R536 | QRE141J-683Y | RC | 68kΩ | 1/4W |
| | R537 | QRE141J-104Y | RC | 100kΩ | 1/4W |
| | R539 | QRE141J-125Y | RC | 1.2MΩ | 1/4W |
| | R540 | QRE141J-125Y | RC | 1.2MΩ | 1/4W |
| ⚠ | R541 | X-R63581R22J | R,FUSE | 0.22Ω | 1W |
| ⚠ | R542 | X-R3X181R15J | R,METAL OXIDE | 0.15Ω | 1W |
| | R543 | X-R00204102J | RC | 1kΩ | 1/4W |
| | R544 | NRSA02J-271X | MG R | 270Ω | 1/10W |
| | R545 | NRSA02J-151X | MG R | 150Ω | 1/10W |
| | R546 | QRE141J-101Y | RC | 100Ω | 1/4W |
| | R547 | QRE141J-101Y | RC | 100Ω | 1/4W |
| | R548 | X-R00106103J | RC | 10kΩ | 1/6W |
| | R553 | QRE121J-682Y | RC | 6.8kΩ | 1/2W |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **RESISTORS** | | | |
| ⚠ | R554 | X-R002T2104J | RC | 100kΩ 1/2W |
| | R601 | NRSA02J-184X | MG R | 180kΩ 1/10W |
| | R602 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R603 | NRSA02J-332X | MG R | 3.3kΩ 1/10W |
| | R604 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R605 | NRSA02J-103X | MG R | 10kΩ 1/10W |
| | R606 | X-R00204101J | RC | 100Ω 1/4W |
| | R607 | NRSA02J-222X | MG R | 2.2kΩ 1/10W |
| | R608 | QRE141J-271Y | RC | 270Ω 1/4W |
| | R610 | NRSA02J-272X | MG R | 2.7kΩ 1/10W |
| | R612 | NRSA02J-272X | MG R | 2.7kΩ 1/10W |
| | R614 | NRSA02J-272X | MG R | 2.7kΩ 1/10W |
| | R615 | NRSA02J-122X | MG R | 1.2kΩ 1/10W |
| | R616 | NRSA02J-221X | MG R | 220Ω 1/10W |
| | R617 | NRSA02J-221X | MG R | 220Ω 1/10W |
| | R618 | NRSA02J-274X | MG R | 270kΩ 1/10W |
| | R619 | NRSA02J-333X | MG R | 33kΩ 1/10W |
| | R621 | X-R00204101J | RC | 100Ω 1/4W |
| | R623 | NRSA02J-103X | MG R | 10kΩ 1/10W |
| | R624 | NRSA02J-155X | MG R | 1.5MΩ 1/10W |
| | R625 | NRSA02J-154X | MG R | 150kΩ 1/10W |
| | R629 | X-R00204101J | RC | 100Ω 1/4W |
| | R631 | QRE121J-820Y | RC | 82Ω 1/2W |
| | R635 | NRSA02J-333X | MG R | 33kΩ 1/10W |
| | R636 | NRSA02J-222X | MG R | 2.2kΩ 1/10W |
| | R638 | QRE141J-102Y | RC | 1kΩ 1/4W |
| | R640 | NRSA02J-472X | MG R | 4.7kΩ 1/10W |
| | R702 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R703 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R705 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R707 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R708 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R711 | NRSA02J-392X | MG R | 3.9kΩ 1/10W |
| | R713 | NRSA02J-680X | MG R | 68Ω 1/10W |
| | R714 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R715 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R716 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R717 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R720 | QRE141J-101Y | RC | 100Ω 1/4W |
| | R721 | NRSA02J-122X | MG R | 1.2kΩ 1/10W |
| | R722 | NRSA02J-152X | MG R | 1.5kΩ 1/10W |
| | R723 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R724 | NRSA02J-332X | MG R | 3.3kΩ 1/10W |
| | R725 | NRSA02J-332X | MG R | 3.3kΩ 1/10W |
| | R726 | NRSA02J-271X | MG R | 270Ω 1/10W |
| | R727 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R728 | NRSA02J-392X | MG R | 3.9kΩ 1/10W |
| | R730 | NRSA02J-184X | MG R | 180kΩ 1/10W |
| | R731 | NRSA02J-224X | MG R | 220kΩ 1/10W |
| | R732 | NRSA02J-392X | MG R | 3.9kΩ 1/10W |
| | R734 | QRE141J-103Y | RC | 10kΩ 1/4W |
| | R736 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R737 | NRSA02J-184X | MG R | 180kΩ 1/10W |
| | R738 | NRSA02J-224X | MG R | 220kΩ 1/10W |
| | R739 | NRSA02J-392X | MG R | 3.9kΩ 1/10W |
| | R740 | NRSA02J-122X | MG R | 1.2kΩ 1/10W |
| | R741 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R747 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R748 | NRSA02J-392X | MG R | 3.9kΩ 1/10W |
| | R749 | NRSA02J-392X | MG R | 3.9kΩ 1/10W |
| | R750 | NRSA02J-750X | MG R | 75Ω 1/10W |
| | R751 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R752 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R770 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R904 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R905 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R906 | NRSA02J-224X | MG R | 220kΩ 1/10W |
| | R907 | QRE141J-221Y | RC | 220Ω 1/4W |
| | R908 | QRE141J-221Y | RC | 220Ω 1/4W |
| | R1001 | QRE121J-271Y | RC | 270Ω 1/2W |
| | R1002 | QRE121J-271Y | RC | 270Ω 1/2W |
| | R1003 | NRSA02J-562X | MG R | 5.6kΩ 1/10W |
| | R1004 | NRSA02J-562X | MG R | 5.6kΩ 1/10W |
| | R1009 | NRSA02J-103X | MG R | 10kΩ 1/10W |
| | R1010 | NRSA02J-103X | MG R | 10kΩ 1/10W |
| | R1011 | NRSA02J-103X | MG R | 10kΩ 1/10W |
| | R1013 | NRSA02J-103X | MG R | 10kΩ 1/10W |
| | R1502 | NRSA02J-101X | MG R | 100Ω 1/10W |
| | R1503 | NRSA02J-101X | MG R | 100Ω 1/10W |
| | R1504 | NRSA02J-822X | MG R | 8.2kΩ 1/10W |
| | R1505 | NRSA02J-682X | MG R | 6.8kΩ 1/10W |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **RESISTORS** | | | |
| | R1506 | NRSA02J-332X | MG R | 3.3kΩ 1/10W |
| | R1507 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R1508 | NRSA02J-682X | MG R | 6.8kΩ 1/10W |
| | R1509 | NRSA02J-473X | MG R | 47kΩ 1/10W |
| | R1510 | NRSA02J-473X | MG R | 47kΩ 1/10W |
| | R1511 | NRSA02J-122X | MG R | 1.2kΩ 1/10W |
| | R1513 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R1514 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R1515 | NRSA02J-471X | MG R | 470Ω 1/10W |
| | R1516 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R1517 | NRSA02J-470X | MG R | 47Ω 1/10W |
| | R1518 | NRSA02J-273X | MG R | 27kΩ 1/10W |
| | R1519 | NRSA02J-243X | MG R | 24kΩ 1/10W |
| | R1520 | NRSA02J-122X | MG R | 1.2kΩ 1/10W |
| | R1521 | QRE141J-102Y | RC | 1kΩ 1/4W |
| | R1522 | NRSA02J-102X | MG R | 1kΩ 1/10W |
| | R1525 | QRE141J-102Y | RC | 1kΩ 1/4W |
| | R1527 | QRE121J-153Y | RC | 15kΩ 1/2W |
| | R1528 | NRSA02J-913X | MG R | 91kΩ 1/10W |
| | **CAPACITORS** | | | |
| | C001 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C002 | X-E02LT0471M | CE | 470µF 6.3V |
| | C003 | QEKJ1HM-225Z | CE | 2.2µF 50V |
| | C004 | X-P1S3T0223J | CP | 0.022µF 50V |
| | C103 | X-CS0RCH411D | CC | 10pF 50V CH |
| | C105 | NDC21HJ-151X | CC | 150pF 50V CH |
| | C107 | NCB21EK-104X | CC | 0.1µF 25V B |
| | C108 | NDC21HJ-680X | CC | 68pF 50V CH |
| | C109 | NDC21HJ-680X | CC | 68pF 50V CH |
| | C111 | QEKJ1HM-105Z | CE | 1µF 50V |
| | C112 | NCB21HK-222X | CC | 0.0022µF 50V B |
| | C115 | X-CHGTB04G2K | CC | 180pF 50V B |
| | C117 | QEKJ1HM-474Z | CE | 0.47µF 50V |
| | C118 | X-E02LF0222M | CE | 2200µF 6.3V |
| | C121 | NDC21HJ-101X | CC | 100pF 50V CH |
| | C122 | QEKJ1HM-105Z | CE | 1µF 50V |
| | C123 | QEKJ1CM-106Z | CE | 10µF 16V |
| | C124 | NCB21EK-104X | CC | 0.1µF 25V B |
| | C125 | X-CS0RCH411D | CC | 10pF 50V CH |
| | C127 | NDC21HJ-270X | CC | 27pF 50V CH |
| | C128 | NCB21HK-102X | CC | 0.001µF 50V B |
| | C129 | NDC21HJ-270X | CC | 27pF 50V CH |
| | C132 | NDC21HJ-821X | CC | 820pF 50V CH |
| | C138 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C139 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C140 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C143 | NDC21HJ-101X | CC | 100pF 50V CH |
| | C201 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C202 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C203 | QETN1AM-107Z | CE | 100µF 10V |
| | C204 | X-E02L05100M | CE | 10µF 50V |
| | C204 | QETN1HM-106Z | CE | 10µF 50V |
| | C206 | NCB21EK-104X | CC | 0.1µF 25V B |
| | C208 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C209 | QETN1HM-474Z | CE | 0.47µF 50V |
| | C210 | NCB21HK-222X | CC | 0.0022µF 50V B |
| | C211 | QETN1HM-224Z | CE | 0.22µF 50V |
| | C212 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C213 | QETN1CM-107Z | CE | 100µF 16V |
| | C214 | QETN1HM-106Z | CE | 10µF 50V |
| | C215 | NDC21HJ-330X | CC | 33pF 50V CH |
| | C216 | QETN1HM-106Z | CE | 10µF 50V |
| | C218 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C220 | NCB21HK-222X | CC | 0.0022µF 50V B |
| | C221 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C222 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C228 | NCB21HK-103X | CC | 0.01µF 50V B |
| | C229 | NDC21HJ-101X | CC | 100pF 50V CH |
| | C303 | QETN1CM-476Z | CE | 47µF 16V |
| | C304 | X-E62KU52R2M | CE | 2.2µF 50V |
| | C305 | X-E62KU52R2M | CE | 2.2µF 50V |
| | C306 | NCB21HK-332X | CC | 0.0033µF 50V B |
| | C307 | NCB21HK-332X | CC | 0.0033µF 50V B |
| | C308 | NCB21HK-333X | CC | 0.033µF 50V B |
| | C309 | NCB21HK-333X | CC | 0.033µF 50V B |
| | C310 | QEKJ1CM-106Z | CE | 10µF 16V |
| | C311 | QETN1HM-106Z | CE | 10µF 50V |
| | C312 | QEKJ1CM-106Z | CE | 10µF 16V |

| ⚠ | Symbol No. | Part No. | Part Name | Description | | |
|---|---|---|---|---|---|---|
| | **CAPACITORS** | | | | | |
| | C313 | QETN1CM-107Z | CE | 100µF | 16V | |
| | C314 | QEKJ1CM-106Z | CE | 10µF | 16V | |
| | C315 | QETN1AM-227Z | CE | 220µF | 10V | |
| | C325 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C326 | QETN1CM-476Z | CE | 47µF | 16V | |
| | C328 | QEKJ1HM-225Z | CE | 2.2µF | 50V | |
| | C329 | QEKJ1HM-225Z | CE | 2.2µF | 50V | |
| | C330 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C331 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C332 | NCB21CK-474X | CC | 0.47µF | 16V | B |
| | C333 | NCB21CK-474X | CC | 0.47µF | 16V | B |
| | C334 | NCB21HK-333X | CC | 0.033µF | 50V | B |
| | C335 | NCB21HK-333X | CC | 0.033µF | 50V | B |
| | C336 | NDC21HJ-101X | CC | 100pF | 50V | CH |
| | C337 | NDC21HJ-101X | CC | 100pF | 50V | CH |
| | C338 | NCB21HK-102X | CC | 0.001µF | 50V | B |
| | C339 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C401 | X-C0JTSL5K1J | CC | 27pF | 500V | SL |
| | C402 | X-P235W1103J | CMP | 0.01µF | 100V | MKT |
| | C403 | X-E02LT5220M | CE | 22µF | 50V | |
| | C405 | NDC21HJ-561X | CC | 560pF | 50V | CH |
| | C406 | X-E02LT5010M | CE | 1µF | 50V | |
| | C407 | X-E02LT4101M | CE | 100µF | 35V | |
| ⚠ | C408 | X-E5EZF3102M | CE | 1000µF | 25V | |
| | C409 | X-E02LT5100M | CE | 10µF | 50V | |
| | C411 | X-C0JTSL5H1J | CC | 22pF | 500V | SL |
| ⚠ | C413 | X-E02LF4102M | CE | 1000µF | 35V | |
| | C414 | X-C0JTB05L3K | CC | 0.0033µF | 500V | B |
| | C415 | X-C0JTB0512K | CC | 100pF | 500V | B |
| | C417 | X-P235W1224J | CMP | 0.22µF | 100V | MKT |
| | C418 | X-P4J7F3394J | CMPP | 0.39µF | 250V | PMS |
| ⚠ | C420 | X-P4N8FJ123H | CMPP | 0.012µF | 1.25KV | |
| | C425 | X-C03L0R713K | CC | 0.001µF | 2KV | R |
| ⚠ | C426 | X-E5EZFD220M | CE | 22µF | 250V | |
| | C427 | X-P235W1104J | CMP | 0.1µF | 100V | MKT |
| | C428 | QCBB1HK-122Y | CC | 0.0012µF | 50V | B |
| ⚠ | C430 | X-E02LT8220M | CE | 22µF | 100V | |
| | C436 | QETN1CM-476Z | CE | 47µF | 16V | |
| | C439 | X-CHGTB0413K | CC | 0.001µF | 50V | B |
| ⚠ | C441 | X-E02LT3471M | CE | 470µF | 25V | |
| ⚠ | C501 | X-E02LF4102M | CE | 1000µF | 35V | |
| ⚠ | C502 | X-C0JBB0713K | CC | 0.001µF | 2KV | B |
| ⚠ | C503 | X-C0JBB0713K | CC | 0.001µF | 2KV | B |
| ⚠ | C504 | X-E02LU5100M | CE | 10µF | 50V | |
| ⚠ | C505 | X-P2472B224M | CMP | 0.22µF | 275V | PHE840 |
| ⚠ | C506 | X-P2472B104M | CMP | 0.1µF | 275V | PHE840 |
| ⚠ | C507 | X-E51CGC471M | CE | 470µF | 200V | |
| | C509 | QETN1EM-476Z | CE | 47µF | 25V | |
| | C512 | X-P235W1473J | CMP | 0.047µF | 100V | MKT |
| ⚠ | C514 | X-CD39E0MH3M | CC | 0.0022µF | 250V | |
| | C516 | X-C0JTB0513K | CC | 0.001µF | 500V | B |
| | C517 | X-C03L0R7E3K | CC | 0.0015µF | 2KV | R |
| | C518 | X-C0JTB0513K | CC | 0.001µF | 500V | B |
| ⚠ | C521 | X-E62NFB221M | CE | 220µF | 160V | |
| ⚠ | C522 | X-CD39E0MH3M | CC | 0.0022µF | 250V | |
| | C524 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C526 | NDC21HJ-221X | CC | 220pF | 50V | CH |
| ⚠ | C527 | X-E02LF2222M | CE | 2200µF | 16V | |
| | C528 | X-E02LT2102M | CE | 1000µF | 16V | |
| | C530 | QETN1AM-477Z | CE | 470µF | 10V | |
| ⚠ | C531 | X-E02LT2471M | CE | 470µF | 16V | |
| | C532 | X-E02LT0102M | CE | 1000µF | 6.3V | |
| | C533 | QEKJ1CM-106Z | CE | 10µF | 16V | |
| | C535 | X-C03L0R713K | CC | 0.001µF | 2KV | R |
| | C539 | X-E02LT82R2M | CE | 2.2µF | 100V | |
| | C541 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C554 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C601 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C602 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C604 | QETN1HM-105Z | CE | 1µF | 50V | |
| | C605 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C606 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C607 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C608 | QETN1HM-105Z | CE | 1µF | 50V | |
| | C609 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C612 | QEKJ1HM-225Z | CE | 2.2µF | 50V | |
| | C614 | NCB21CK-474X | CC | 0.47µF | 16V | B |
| | C615 | QETN1CM-107Z | CE | 100µF | 16V | |
| | C616 | QETN1CM-476Z | CE | 47µF | 16V | |
| | C617 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C618 | NCB21HK-103X | CC | 0.01µF | 50V | B |

| ⚠ | Symbol No. | Part No. | Part Name | Description | | |
|---|---|---|---|---|---|---|
| | **CAPACITORS** | | | | | |
| | C619 | X-E02LT0471M | CE | 470µF | 6.3V | |
| | C623 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C624 | QETN1AM-107Z | CE | 100µF | 10V | |
| | C625 | X-E62KU54R7M | CE | 4.7µF | 50V | |
| | C626 | NCB21HK-123X | CC | 0.012µF | 50V | B |
| | C627 | X-CS0RCH480D | CC | 8pF | 50V | CH |
| | C629 | NCB21HK-222X | CC | 0.0022µF | 50V | B |
| | C630 | QETN1HM-224Z | CE | 0.22µF | 50V | |
| | C631 | NDC21HJ-221X | CC | 220pF | 50V | CH |
| | C632 | NDC21HJ-221X | CC | 220pF | 50V | CH |
| | C633 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C634 | NCB21EK-224X | CC | 0.22µF | 25V | B |
| | C636 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C637 | X-CS0RCJ430C | CC | 3pF | 50V | CJ |
| | C640 | X-E02LT2102M | CE | 1000µF | 16V | |
| | C641 | NCB21HK-102X | CC | 0.001µF | 50V | B |
| | C644 | QCBB1HK-104Y | CC | 0.1µF | 50V | B |
| | C645 | QCBB1HK-104Y | CC | 0.1µF | 50V | B |
| | C646 | QCBB1HK-104Y | CC | 0.1µF | 50V | B |
| | C704 | X-E02LT2471M | CE | 470µF | 16V | |
| | C705 | X-E00NU2470M | CE | 47µF | 16V | |
| | C706 | X-CS0RCH480D | CC | 8pF | 50V | CH |
| | C707 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C708 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C711 | QETN1CM-107Z | CE | 100µF | 16V | |
| | C712 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C713 | QEKJ1CM-106Z | CE | 10µF | 16V | |
| | C714 | QEKJ1CM-106Z | CE | 10µF | 16V | |
| | C715 | X-E02LT2471M | CE | 470µF | 16V | |
| | C720 | NDC21HJ-330X | CC | 33pF | 50V | CH |
| | C721 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C722 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C724 | QEKJ1HM-105Z | CE | 1µF | 50V | |
| | C725 | QEKJ1HM-105Z | CE | 1µF | 50V | |
| | C726 | NCB21HK-562X | CC | 0.0056µF | 50V | B |
| | C727 | NCB21HK-562X | CC | 0.0056µF | 50V | B |
| | C728 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C729 | X-E00NU5R47M | CE | 0.47µF | 50V | |
| | C730 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C731 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C733 | QETN1CM-107Z | CE | 100µF | 16V | |
| | C734 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C735 | QEKJ1CM-226Z | CE | 22µF | 16V | |
| | C737 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C738 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C739 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C740 | NCB21HK-562X | CC | 0.0056µF | 50V | B |
| | C741 | QETN1HM-335Z | CE | 3.3µF | 50V | |
| | C742 | NCB21HK-562X | CC | 0.0056µF | 50V | B |
| | C743 | NCB21HK-562X | CC | 0.0056µF | 50V | B |
| | C744 | NCB21HK-562X | CC | 0.0056µF | 50V | B |
| | C745 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C746 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C747 | QCFB1HZ-105Y | CC | 1µF | 50V | F |
| | C748 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C750 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C793 | NDC21HJ-330X | CC | 33pF | 50V | CH |
| | C917 | QEKJ1HM-475Z | CE | 4.7µF | 50V | |
| | C918 | QEKJ1HM-475Z | CE | 4.7µF | 50V | |
| | C919 | QEKJ1HM-225Z | CE | 2.2µF | 50V | |
| | C920 | NDC21HJ-101X | CC | 100pF | 50V | CH |
| | C921 | QETN1HM-106Z | CE | 10µF | 50V | |
| | C922 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C923 | NDC21HJ-101X | CC | 100pF | 50V | CH |
| | C924 | QETN1AM-107Z | CE | 100µF | 10V | |
| | C925 | QEKJ1HM-334Z | CE | 0.33µF | 50V | |
| | C926 | NCB21HK-473X | CC | 0.047µF | 50V | B |
| | C927 | NCB21HK-223X | CC | 0.022µF | 50V | B |
| | C928 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C929 | QEKJ1HM-335Z | CE | 3.3µF | 50V | |
| | C930 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C931 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C932 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C935 | X-E02LT54R7M | CE | 4.7µF | 50V | |
| | C1001 | QETN1HM-106Z | CE | 10µF | 50V | |
| | C1002 | QETN1HM-106Z | CE | 10µF | 50V | |
| | C1003 | X-E02LT3471M | CE | 470µF | 25V | |
| | C1004 | X-E02LF3102M | CE | 1000µF | 25V | |
| | C1007 | QETN1HM-226Z | CE | 22µF | 50V | |
| | C1008 | QETN1HM-225Z | CE | 2.2µF | 50V | |
| | C1009 | X-E02LF3102M | CE | 1000µF | 25V | |

| ⚠ | Symbol No. | Part No. | Part Name | Description | | |
|---|---|---|---|---|---|---|
| | **CAPACITORS** | | | | | |
| | C1010 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C1011 | X-E02LT3221M | CE | 220µF | 25V | |
| | C1012 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C1501 | QETN0JM-107Z | CE | 100µF | 6.3V | |
| | C1502 | QETN0JM-107Z | CE | 100µF | 6.3V | |
| | C1503 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1504 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1505 | NCB21CK-105X | CC | 1µF | 16V | B |
| | C1506 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1507 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1508 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1509 | NCF21HZ-104X | CC | 0.1µF | 50V | F |
| | C1510 | QETN0JM-107Z | CE | 100µF | 6.3V | |
| | C1512 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1513 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1514 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1515 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1516 | QEKJ1CM-106Z | CE | 10µF | 16V | |
| | C1517 | NDC21HJ-101X | CC | 100pF | 50V | CH |
| | C1518 | QEKJ1HM-105Z | CE | 1µF | 50V | |
| | C1519 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1521 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | C1523 | NDC21HJ-121X | CC | 120pF | 50V | CH |
| | C1525 | QETN0JM-107Z | CE | 100µF | 6.3V | |
| | C1526 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C1527 | X-CHGTX02Q3M | CC | 0.0047µF | 16V | X |
| | C1528 | QETN1CM-107Z | CE | 100µF | 16V | |
| | C1530 | X-E00NU53R3M | CE | 3.3µF | 50V | |
| | C1531 | NCB21HK-103X | CC | 0.01µF | 50V | B |
| | C1533 | NDC21HJ-220X | CC | 22pF | 50V | CH |
| | C1535 | NCB21EK-104X | CC | 0.1µF | 25V | B |
| | **DIODES** | | | | | |
| | D001 | X-D97U03301A | ZENER | MTZJ33AT-77 | | |
| | D102 | 1SS133-T2 | SILICON | | | |
| | D103 | 1SS133-T2 | SILICON | | | |
| | D107 | 1SS133-T2 | SILICON | | | |
| | D109 | X-21721150 | LED | SLR-342VCT32 | | |
| | D201 | X-D97U01201B | ZENER | MTZJ12BT-77 | | |
| | D402 | X-D2WT011E10 | SILICON | 11E1-EIC | | |
| | D403 | X-D97U03001B | ZENER | MTZJ30BT-77 | | |
| | D404 | X-D97U09R11B | ZENER | MTZJ9.1BT-77 | | |
| ⚠ | D405 | X-D2WTAU02A0 | SILICON | AU02A-EIC | | |
| ⚠ | D406 | X-D97U05R61B | ZENER | MTZJ5.6BT-77 | | |
| ⚠ | D407 | X-D2WTAU02A0 | SILICON | AU02A-EIC | | |
| | D410 | X-D97U03001B | ZENER | MTZJ30BT-77 | | |
| ⚠ | D411 | X-D28TELS6N6 | RECTIFER | 10ELS6N-TA1B2 | | |
| | D414 | X-D2WT011E10 | SILICON | 11E1-EIC | | |
| | D415 | X-D2WT011E10 | SILICON | 11E1-EIC | | |
| ⚠ | D416 | X-D28TELS6N6 | RECTIFER | 10ELS6N-TA1B2 | | |
| ⚠ | D501 | X-D2WTRM11C0 | SILICON | RM11C-EIC | | |
| ⚠ | D502 | X-D2WTRM11C0 | SILICON | RM11C-EIC | | |
| ⚠ | D503 | X-D2WTRM11C0 | SILICON | RM11C-EIC | | |
| ⚠ | D504 | X-D2WTRM11C0 | SILICON | RM11C-EIC | | |
| ⚠ | D505 | X-D28F30DF60 | RECTIFER | 30DF6-FC | | |
| ⚠ | D506 | X-D2WXN49370 | SILICON | 1N4937 | | |
| | D507 | 1SS133-T2 | SILICON | | | |
| ⚠ | D509 | X-D97U01801B | ZENER | MTZJ18BT-77 | | |
| ⚠ | D510 | X-D2BFRU4AM0 | SILICON | RU-4AM | | |
| ⚠ | D511 | X-D2WXN49370 | SILICON | 1N4937 | | |
| ⚠ | D512 | X-D2WXB290S0 | SILICON | SB290S | | |
| | D513 | MTZJ5.6B-T2 | ZENER | | | |
| ⚠ | D514 | X-D2WXB290S0 | SILICON | SB290S | | |
| | D515 | X-D97U01501B | ZENER | MTZJ15BT-77 | | |
| | D516 | 1SS133-T2 | SILICON | | | |
| | D517 | 1SS133-T2 | SILICON | | | |
| | D519 | 1SS133-T2 | SILICON | | | |
| | D520 | 1SS133-T2 | SILICON | | | |
| ⚠ | D523 | X-D97U01801B | ZENER | MTZJ18BT-77 | | |
| | D524 | 1SS133-T2 | SILICON | | | |
| | D525 | X-D97U08R21B | ZENER | MTZJ8.2BT-77 | | |
| | D528 | MTZJ5.6B-T2 | ZENER | | | |
| | D602 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 | | |
| | D603 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 | | |
| | D604 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 | | |
| | D605 | X-D2WT011E10 | SILICON | 11E1-EIC | | |
| | D606 | MTZJ5.6B-T2 | ZENER | | | |
| | D608 | 1SS133-T2 | SILICON | | | |
| | D609 | MTZJ5.6B-T2 | ZENER | | | |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **DIODES** | | | |
| | D610 | MTZJ5.6B-T2 | ZENER | |
| | D611 | 1SS133-T2 | SILICON | |
| | D612 | 1SS133-T2 | SILICON | |
| | D613 | 1SS133-T2 | SILICON | |
| | D614 | 1SS133-T2 | SILICON | |
| | D615 | 1SS133-T2 | SILICON | |
| | D617 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D618 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D619 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D620 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D621 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D622 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D623 | X-D97U01201B | ZENER | MTZJ12BT-77 |
| | D711 | X-D97U06R21B | ZENER | MTZJ6.2BT-77 |
| | D1003 | MTZJ5.6B-T2 | ZENER | |
| | **ICS** | | | |
| | IC101 | X-I56F07075A | IC | OEC7075A |
| | IC103 | X-I9UJ0T600C | IC | PST600C |
| | IC198 | X-A3K606Z015 | IC | S-24C16AFJA-TB-01 |
| | IC201 | X-I05DC12530 | IC | TB1253N |
| | IC301 | X-I0QF021500 | IC | NJM2150AM |
| | IC303 | X-I06DF62420 | IC | M62420SP |
| ⚠ | IC401 | X-I01TD55220 | IC | AN5522 |
| ⚠ | IC502 | X-I1KA97809A | IC | KIA7809API |
| ⚠ | IC503 | X-I1KA97805A | IC | KIA7805API |
| ⚠ | IC504 | X-0002E00610 | PHOTO COUPLER | LTV-817M-VB |
| | IC701 | X-I0UD013110 | IC | MM1311AD |
| | IC902 | X-I01FF58290 | IC | AN5829S |
| ⚠ | IC1001 | X-I0FSP52760 | IC | AN5276 |
| | IC1501 | X-I03FE76600 | IC | LA76600M-TLM |
| | **TRANSISTORS** | | | |
| | Q101 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q102 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q103 | X-TNAAB05003 | COMPOUND | KRC102SRTK |
| | Q108 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q109 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q201 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q202 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q203 | X-TAAA1504SY | SILICON | KTA1504S_Y_RTK |
| | Q204 | X-T8AA03881S | SILICON | KTC3881S-RTK |
| ⚠ | Q402 | X-TC5T01627Y | SILICON | 2SC1627_Y(TPE2) |
| ⚠ | Q405 | X-TDUU024990 | SILICON | 2SD2499(LB0EC1) |
| | Q406 | X-TPYJD05001 | COMPOUND | DTA144EKAT146 |
| | Q407 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| ⚠ | Q501 | X-TCAT032034 | SILICON | KTC3203_Y-AT |
| ⚠ | Q502 | X-T220033260 | FET | 2SK3326(2) |
| ⚠ | Q503 | X-TA3T1371A0 | SILICON | 2SA1371(D,E)-AE |
| | Q504 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) |
| ⚠ | Q505 | X-TC3T029090 | SILICON | 2SC2909(S,T)-AA |
| ⚠ | Q506 | X-TAAA1504SY | SILICON | KTA1504S_Y_RTK |
| ⚠ | Q507 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) |
| ⚠ | Q508 | X-TAAT01273Y | SILICON | KTA1273_Y |
| | Q509 | X-TNAAB05003 | COMPOUND | KRC102SRTK |
| ⚠ | Q510 | X-TC10013840 | SILICON | 2SC13840W |
| ⚠ | Q512 | X-TA3T016240 | SILICON | 2SA1624-AA |
| ⚠ | Q514 | X-TCAT032034 | SILICON | KTC3203_Y-AT |
| | Q601 | X-TPAAB05001 | COMPOUND | KRA102SRTK |
| | Q603 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q604 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q701 | X-TCAA3875SY | SILICON | KTC3875S_Y_RT |
| | Q704 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q705 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q709 | X-TAAA1504SY | SILICON | KTA1504S_Y_RTK |
| | Q1001 | X-TNAAJ05003 | COMPOUND | KRC111SRT |
| | Q1503 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q1504 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q1505 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |
| | Q1506 | X-TAAA1504SY | SILICON | KTA1504S_Y_RTK |
| | Q1507 | X-TCAA3875SY | SILICON | KTC3875S_Y_RTK |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **COILS** | | | |
| | L002 | X-021673101K | COIL | 100µH |
| | L201 | X-02167F101J | COIL | 100µH |
| | L203 | X-021LA61R5K | COIL | 1.5µH |
| | L204 | X-021LA6150K | COIL | 15µH |
| | L205 | X-021673470K | COIL | 47µH |
| | L301 | X-021LA6470K | COIL | 47µH |
| | L302 | X-021LA6220K | COIL | 22µH |
| ⚠ | L402 | X-022100027A | COIL,LINEARITY | ELH5L4113 |
| ⚠ | L501 | X-029T000097 | COIL,LINE FILTER | 1R5A123F28Y |
| | L601 | X-021673470K | COIL | 47µH |
| | L602 | X-021673101K | COIL | 100µH |
| | L603 | X-02167F470J | COIL | 47µH |
| | L604 | X-02167F470J | COIL | 47µH |
| | L701 | X-02167D101K | COIL | 100µH |
| | L703 | X-02167F470J | COIL | 47µH |
| | L901 | X-021LA6220K | COIL | 22µH |
| | L1503 | X-021673221K | COIL | 220µH |
| | L1505 | X-02167F150J | COIL | 15µH |
| | L1510 | X-02167F150J | COIL | 15µH |
| | L1511 | X-02167F150J | COIL | 15µH |
| | L1512 | X-021LA6220J | COIL | 22µH |
| | **TRANSFORMERS** | | | |
| ⚠ | FB401 | X-043220053R | FLYBACK | 3220053R |
| | T401 | X-045013003J | HORIZONTAL DRIVE | ETH14Y47AY |
| ⚠ | T501 | X-048140066S | SWITCHING | 8140066S |
| | **JACKS** | | | |
| | J701 | X-060J431019 | RCA JACK | MSP-213V2-432PBSN |
| | J702 | X-063Q700002 | JACK | YKF51-5503 |
| | J703 | X-060J431019 | RCA JACK | MSP-213V2-432PBSN |
| | J704 | X-060J411024 | RCA JACK | MSP-213V1-652PBSN |
| | J705 | X-060G401047 | RCA JACK | HTJ-032-03AY |
| | J706 | X-060G401046 | RCA JACK | HTJ-032-03AW |
| | J707 | X-060G401039 | RCA JACK | HTJ-032-03AR |
| | J708 | X-060J431019 | RCA JACK | MSP-213V2-432PBSN |
| ⚠ | J1001 | X-060J131015 | HEADPHONE JACK | MSJ-2000 |
| | **SWITCHES** | | | |
| | SW101 | X-0504201T31 | SWITCH,TACT | SKHVBED010 |
| | SW102 | X-0504201T31 | SWITCH,TACT | SKHVBED010 |
| | SW103 | X-0504201T31 | SWITCH,TACT | SKHVBED010 |
| | SW104 | X-0504201T31 | SWITCH,TACT | SKHVBED010 |
| | SW105 | X-0504201T31 | SWITCH,TACT | SKHVBED010 |
| | **CONNECTORS** | | | |
| | CP101 | X-694270139 | CONNECTOR PCB SIDE | 173979-7 |
| ⚠ | CP401 | X-069X460029 | CONNECTOR PCB SIDE | B06B-DVS |
| ⚠ | CP502 | X-069S420110 | CONNECTOR PCB SIDE | A1561WV2-2P |
| | CP507 | X-069D01001A | CONNECTOR PCB SIDE | 003P-2100 |
| | CP508 | X-069D01001A | CONNECTOR PCB SIDE | 003P-2100 |
| | CP1001 | X-069S140419 | CONNECTOR PCB SIDE | A2502WV2-4P |
| | **OTHERS** | | | |
| | B401 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B402 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B501 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B502 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B504 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| ⚠ | CD501 | X-120R415902 | CORD,AC BUSH | 0R415902 |
| | CD801 | X-06CU2A3401 | CORD,CONNECTOR | CU2A3401 |
| | CD851 | X-06CU253401 | CORD,CONNECTOR | CU253401 |
| | CD701A | X-06CH243001 | CORD,CONNECTOR | CH243001 |
| | CF201 | X-1011T4R504 | FILTER,CERAMIC | EFCT4R5YS5A |
| | CF202 | X-1022045R74 | FILTER,SAW | SAFGP45M7VFGZ00B |
| | CF203 | X-1012T4R519 | FILTER,CERAMIC TRAP | TPSRA4M50C00-A0 |
| | CF204 | X-1012T04702 | FILTER,CERAMIC TRAP | MKT47.3MC110P-TF |
| | CP801A | X-067U010049 | WIRE HOLDER | B2013H02-10P |
| | CP851A | X-067U005049 | WIRE HOLDER | B2013H02-5P |
| | EL001 | X-124120301A | EYE LET | XRY20X30BD |
| | EL002 | X-124116281A | EYE LET | XRY16X28BD |
| ⚠ | F501 | X-081PC6R305 | FUSE | 51MS063L |
| | FH501 | X-06710T0006 | HOLDER,FUSE | EYF-52BC |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **OTHERS** | | | |
| | FH502 | X-06710T0006 | HOLDER,FUSE | EYF-52BC |
| | OS101 | X-773071001 | REMOTE RECEIVER | RPM7138-H5 |
| ⚠ | RY501 | X-0560V20115 | RELAY | ALKS321 |
| ⚠ | TH501 | X-DF5EL3R0A0 | DEGAUSS ELEMENT | ZPB45BL3R0A |
| ⚠ | TU001 | X-145100059 | TUNER,VHF-UHF | ENV56DB6G3 |
| | X101 | X-100CT8R005 | CRYSTAL | HC-49/U-S |
| | X601 | X-100CT3R505 | CRYSTAL | HC-49/C |

## VM COIL PCB ASS'Y

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | PCB060 | X-A3K6060060 | VM COIL PCB ASS'Y | TEAA93A |
| | **OTHERS** | | | |
| | CD852 | X-06CU232001 | CORD,CONNECTOR | CU232001 |
| | CP852B | X-067U003029 | WIRE HOLDER | B2013H02-3P |

## CRT PCB ASS'Y

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | PCB110 | X-A3K6060110 | CRT PCB ASS'Y | TCA391A |
| | **RESISTORS** | | | |
| | R801 | QRE141J-101Y | RC | 100Ω 1/4W |
| | R802 | QRE141J-101Y | RC | 100Ω 1/4W |
| | R803 | QRE141J-101Y | RC | 100Ω 1/4W |
| ⚠ | R804 | X-R3X18A123J | R,METAL OXIDE | 12kΩ 2W |
| ⚠ | R806 | X-R3X18A123J | R,METAL OXIDE | 12kΩ 2W |
| ⚠ | R808 | X-R3X18A123J | R,METAL OXIDE | 12kΩ 2W |
| | R809 | QRE141J-101Y | RC | 100Ω 1/4W |
| | R810 | QRE141J-182Y | RC | 1.8kΩ 1/4W |
| | R811 | QRE141J-182Y | RC | 1.8kΩ 1/4W |
| | R812 | QRE141J-182Y | RC | 1.8kΩ 1/4W |
| | R813 | QRE141J-221Y | RC | 220Ω 1/4W |
| | R814 | QRE141J-221Y | RC | 220Ω 1/4W |
| | R815 | QRE141J-221Y | RC | 220Ω 1/4W |
| | R817 | QRE141J-331Y | RC | 330Ω 1/4W |
| | R819 | QRE141J-331Y | RC | 330Ω 1/4W |
| | R821 | QRE141J-331Y | RC | 330Ω 1/4W |
| | R828 | QRE141J-272Y | RC | 2.7kΩ 1/4W |
| | R829 | QRE141J-272Y | RC | 2.7kΩ 1/4W |
| | R830 | QRE141J-272Y | RC | 2.7kΩ 1/4W |
| | R851 | QRE121J-121Y | RC | 120Ω 1/2W |
| | R852 | QRE141J-222Y | RC | 2.2kΩ 1/4W |
| | R853 | QRE141J-223Y | RC | 22kΩ 1/4W |
| | R854 | QRE141J-333Y | RC | 33kΩ 1/4W |
| | R855 | X-R65582331J | R,FUSE | 330Ω 1/2W |
| | R856 | QRE141J-102Y | RC | 1kΩ 1/4W |
| | R857 | QRE121J-471Y | RC | 470Ω 1/2W |
| | R858 | QRE141J-101Y | RC | 100Ω 1/4W |
| | R859 | QRE141J-272Y | RC | 2.7kΩ 1/4W |
| | R860 | QRE141J-330Y | RC | 33Ω 1/4W |
| | R861 | QRE141J-333Y | RC | 33kΩ 1/4W |
| | R862 | QRE141J-392Y | RC | 3.9kΩ 1/4W |
| | R863 | QRE141J-392Y | RC | 3.9kΩ 1/4W |
| | R864 | QRE141J-393Y | RC | 39kΩ 1/4W |
| | R865 | QRE141J-563Y | RC | 56kΩ 1/4W |
| | R866 | QRE141J-222Y | RC | 2.2kΩ 1/4W |
| | R867 | QRE121J-100Y | RC | 10Ω 1/2W |
| | R868 | QRE141J-820Y | RC | 82Ω 1/4W |
| | R869 | QRE141J-820Y | RC | 82Ω 1/4W |
| | R870 | QRE141J-152Y | RC | 1.5kΩ 1/4W |
| | R871 | QRE141J-152Y | RC | 1.5kΩ 1/4W |
| | R872 | QRE141J-122Y | RC | 1.2kΩ 1/4W |
| | R873 | QRE141J-683Y | RC | 68kΩ 1/4W |

| ⚠ | Symbol No. | Part No. | Part Name | Description | | |
|---|---|---|---|---|---|---|
| | **RESISTORS** | | | | | |
| | R874 | QRE141J-683Y | RC | 68kΩ | 1/4W | |
| | R875 | QRE141J-122Y | RC | 1.2kΩ | 1/4W | |
| | R876 | QRE141J-123Y | RC | 12kΩ | 1/4W | |
| | R877 | QRE121J-680Y | RC | 68Ω | 1/2W | |
| | R878 | QRE121J-680Y | RC | 68Ω | 1/2W | |
| | R879 | QRE121J-2R7Y | RC | 2.7Ω | 1/2W | |
| | R880 | QRE121J-2R7Y | RC | 2.7Ω | 1/2W | |
| ⚠ | R881 | X-R3X18A150J | R,METAL OXIDE | 15Ω | 2W | |
| | **CAPACITORS** | | | | | |
| | C804 | X-CQGTCH4K2J | CC | 270pF | 50V | CH |
| | C805 | X-CQGTCH4H2J | CC | 220pF | 50V | CH |
| | C806 | X-CQGTCH4Q2J | CC | 470pF | 50V | CH |
| | C808 | X-C0JBB0713K | CC | 0.001µF | 2KV | B |
| | C809 | X-E02LTD2R2M | CE | 2.2µF | 250V | |
| | C813 | X-P1S3T0222J | CP | 0.0022µF | 50V | |
| | C815 | X-CHGTB04L2K | CC | 330pF | 50V | B |
| | C823 | X-CHGTB0412J | CC | 100pF | 50V | B |
| | C851 | X-P1S3T0822J | CP | 0.0082µF | 50V | |
| | C852 | X-E02LT2470M | CE | 47µF | 16V | |
| | C853 | X-E02LT2470M | CE | 47µF | 16V | |
| | C854 | X-E02LTB100M | CE | 10µF | 160V | |
| | C855 | X-CQGTCH4S2J | CC | 560pF | 50V | CH |
| | C856 | QCBB1HK-103Y | CC | 0.01µF | 50V | B |
| | C857 | X-CHGTB0413K | CC | 0.001µF | 50V | B |
| | C858 | X-C0JTCH412J | CC | 100pF | 50V | CH |
| | C859 | X-C0JTCH412J | CC | 100pF | 50V | CH |
| | C860 | X-C0JTB05Q3K | CC | 0.0047µF | 500V | B |
| | C861 | X-C0JTB05Q3K | CC | 0.0047µF | 500V | B |
| | C862 | X-E0ELFB470M | CE | 47µF | 160V | |
| | C863 | X-E0ELFB470M | CE | 47µF | 160V | |
| | C864 | X-E02LTB100M | CE | 10µF | 160V | |
| | C865 | X-C0JTB05E2K | CC | 150pF | 500V | B |
| | C866 | X-E02LT2471M | CE | 470µF | 16V | |
| | C867 | QCBB1HK-104Y | CC | 0.1µF | 50V | B |
| | C868 | X-E02LT5R47M | CE | 0.47µF | 50V | |
| | **DIODES** | | | | | |
| | D801 | 1SS133-T2 | SILICON | | | |
| | D802 | 1SS133-T2 | SILICON | | | |
| | D803 | 1SS133-T2 | SILICON | | | |
| | D804 | 1SS133-T2 | SILICON | | | |
| | D805 | 1SS133-T2 | SILICON | | | |
| | D806 | 1SS133-T2 | SILICON | | | |
| | D852 | 1SS133-T2 | SILICON | | | |
| | D853 | 1SS133-T2 | SILICON | | | |
| | D854 | 1SS133-T2 | SILICON | | | |
| | D855 | 1SS133-T2 | SILICON | | | |
| | D856 | 1SS133-T2 | SILICON | | | |
| | D857 | X-D28TELS2N2 | RECTIFER | 10ELS2N-TA1B2 | | |
| | D858 | X-D28TELS2N2 | RECTIFER | 10ELS2N-TA1B2 | | |
| | **ICS** | | | | | |
| ⚠ | IC851 | X-I1KJ98L120 | IC | KIA78L12BP-AT | | |
| | **TRANSISTORS** | | | | | |
| ⚠ | Q801 | X-TCA0042170 | SILICON | KTC4217(O,Y) | | |
| ⚠ | Q801 | X-TC3Q026210 | SILICON | 2SC2621(D,E)-RAC | | |
| ⚠ | Q802 | X-TCA0042170 | SILICON | KTC4217(O,Y) | | |
| ⚠ | Q802 | X-TC3Q026210 | SILICON | 2SC2621(D,E)-RAC | | |
| ⚠ | Q803 | X-TCA0042170 | SILICON | KTC4217(O,Y) | | |
| ⚠ | Q803 | X-TC3Q026210 | SILICON | 2SC2621(D,E)-RAC | | |
| ⚠ | Q810 | X-TCATC3199Y | SILICON | KTC3199_Y-AT | | |
| ⚠ | Q811 | X-TCATC3199Y | SILICON | KTC3199_Y-AT | | |
| ⚠ | Q812 | X-TCATC3199Y | SILICON | KTC3199_Y-AT | | |
| | Q851 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) | | |
| | Q852 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) | | |
| | Q853 | X-TCUT00752Y | SILICON | 2SC752(G)(TM)_Y | | |
| | Q854 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) | | |
| | Q855 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) | | |
| | Q856 | X-TCATC31980 | SILICON | KTC3198-AT(Y,GR) | | |
| | Q857 | X-TAATA12660 | SILICON | KTA1266-AT(Y,GR) | | |
| | Q858 | X-TAU0018370 | SILICON | 2SA1837 | | |
| | Q859 | X-TCU0047930 | SILICON | 2SC4793 | | |

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **COILS** | | | |
| | L802 | X-021673151K | COIL | 150µH |
| | L803 | X-021673151K | COIL | 150µH |
| | L804 | X-021673151K | COIL | 150µH |
| | **OTHERS** | | | |
| | B801 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B802 | X-024H003553 | CORE,BEADS | W5RH3.5*5*1.0 |
| | B802 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B803 | X-024H003553 | CORE,BEADS | W5RH3.5*5*1.0 |
| | B803 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B851 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B852 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | B853 | X-024HT03553 | CORE,BEADS | W5RH3.5X5X1.0 |
| | CD811 | X-06CH013801 | CORD,CONNECTOR | CH013801 |
| | CP801 | X-069S2A0629 | CONNECTOR PCB SIDE | A2001WV2-10P |
| | CP803 | X-069S330010 | CONNECTOR PCB SIDE | A2361WV2-3P |
| | CP804 | X-069W010010 | CONNECTOR PCB SIDE | 005P-2100 |
| | CP851 | X-069S250629 | CONNECTOR PCB SIDE | A2001WV2-5P |
| | CP852 | X-069S230629 | CONNECTOR PCB SIDE | A2001WV2-3P |
| ⚠ | J801 | X-066C130017 | SOCKET,CATHODE RAY TUBE | CVT3275-5101 |

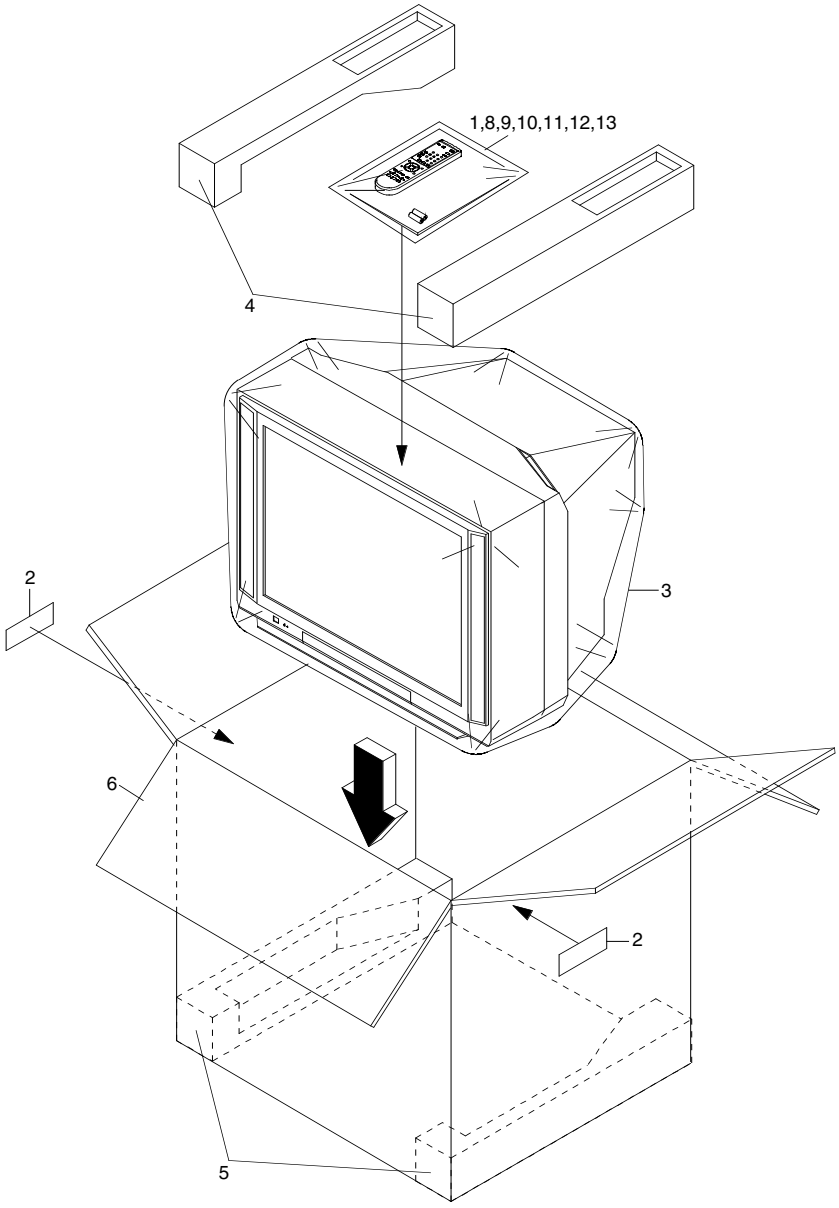
## MISCELLANEOUS

| ⚠ | Symbol No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | **COILS** | | | |
| ⚠ | L503 | X-028R200024 | COIL,DEGAUSS | 8R200024 |
| | **OTHERS** | | | |
| | CD803 | X-06CP83035A | CORD,CONNECTOR | CP83035A |
| | CD1001 | X-06CU14411A | CORD,CONNECTOR | CU14411A |
| ⚠ | SP1001 | X-070C457003 | SPEAKER | SG05K07BRA |
| ⚠ | SP1002 | X-070C457003 | SPEAKER | SG05K07BRA |
| ⚠ | V801 | X-098W210437 | CRT W/DY | A51LVV896X07(O) |

# REMOTE CONTROL UNIT PARTS LIST (RM-C309G)

| ⚠ | Ref. No. | Part No. | Part Name | Description |
|---|---|---|---|---|
| | | UR52EC1286C | BATTERY COVER | |

# PACKING




# ACCESSORY REPLACEMENT PARTS LIST

| ⚠ Ref.No. | Part No. | Part Name | Description |
|---|---|---|---|
| 1 | X-076G0EC010 | TRANSMITTER | EUR524339(RM-C309G) |
| 2 | X-723000B871 | SHEET,UPC | |
| 3 | X-791WHA0085 | LAMIFILM,BAG | |
| 4 | X-792WHA0321 | PACKAGE,TOP | |
| 5 | X-792WHA0322 | PACKAGE,BOTTOM | |
| 6 | X-793WCDB254 | GIFT BOX | |
| 8 | X-JB5KD500 | POLYBAG,INSTRUCTION(RED CAUTION) | |
| 9 | X-J3L30301 | INSTRUCTION BOOK | |
| 10 | X-J5500112 | GUARANTEE CARD | |
| 11 | X-J5500115 | SERVICE STATION LIST | |
| 12 | X-J5500117 | REGISTRATION CARD | |
| 13 | X-J5501202 | GUARANTEE CARD | |

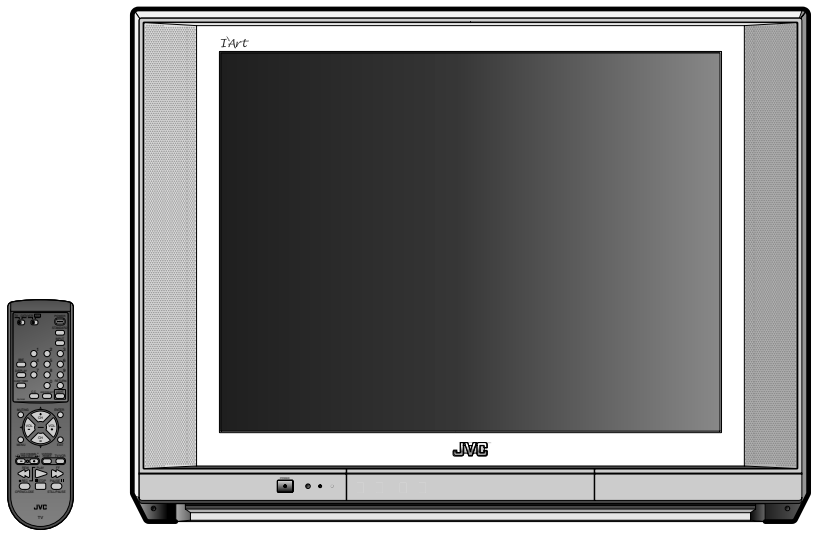
JVC

# SCHEMATIC DIAGRAMS

## COLOR TELEVISION

# AV-20F703

**CD-ROM No. SML200206**





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**No. 52001**
**May 2002**

# AV-20F703 STANDARD CIRCUIT DIAGRAM

## ■ NOTE ON USING CIRCUIT DIAGRAMS

### 1.SAFETY

The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

### 2.INDICATION OF PARTS SYMBOL [EXAMPLE]

●In the PC board :R1209→R209

### 3.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND.

Please, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus ( oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

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*MAIN PCB CHROMA/IF SCHEMATIC DIAGRAM*
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**May 2002 No. 52001**

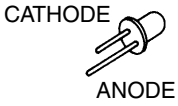
# SEMICONDUCTOR BASE CONNECTIONS

## DIODE

1N4937
1SS133T-77
AU02A-EIC
MTZJ12B T-77
MTZJ15B T-77
MTZJ18B T-77
MTZJ30B T-77
MTZJ33A T-77
MTZJ5.6B T-77
MTZJ6.2B T-77
MTZJ8.2B T-77
MTZJ9.1BT-77

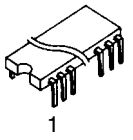
10ELS6N-TA1B2
11E1-EIC
30DF6-FC

10ELS2N-TA1B2
RM11C-EIC
RU-4AM
SB290S

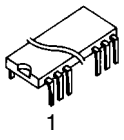



SLR-342VCT32

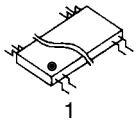
## IC




TB1253N

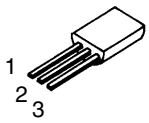



M62420SP
MM1311AD

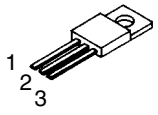



AN5829S
LA76600M-TLM
OEC7075A

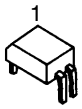
NJM2150AM
S-24C16AFJA-TB-01



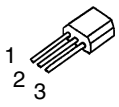

PST600C



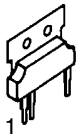

KIA7805API
KIA7809API



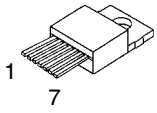

LTV-817M-VB




KIA78L12BP-AT

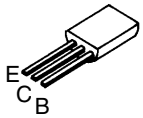



AN5276

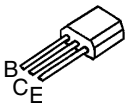



AN5522

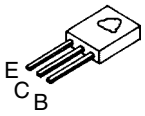
## TRANSISTOR



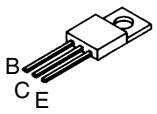

2SA1371(D,E)-AE
2SA1624-AA
2SC13840W
2SC1627_Y(TPE2)
2SC2909(S,T)-AA
2SC752(G)(TM)_Y
KTA1266-AT(Y,GR)



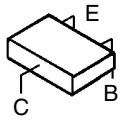

KTA1273_Y
KTC3198-AT(Y,GR)
KTC3199_Y-AT
KTC3203_Y-AT



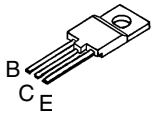

2SC2621(D,E)-RAC



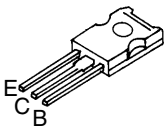

2SA1837
2SC4793
2SK3326(2)




DTA144EKAT146
KRA102SRTK
KRC102SRTK
KRC111SRTK
KTA1504S_Y_RTK
KTC3875S_Y_RTK
KTC3881S-RTK

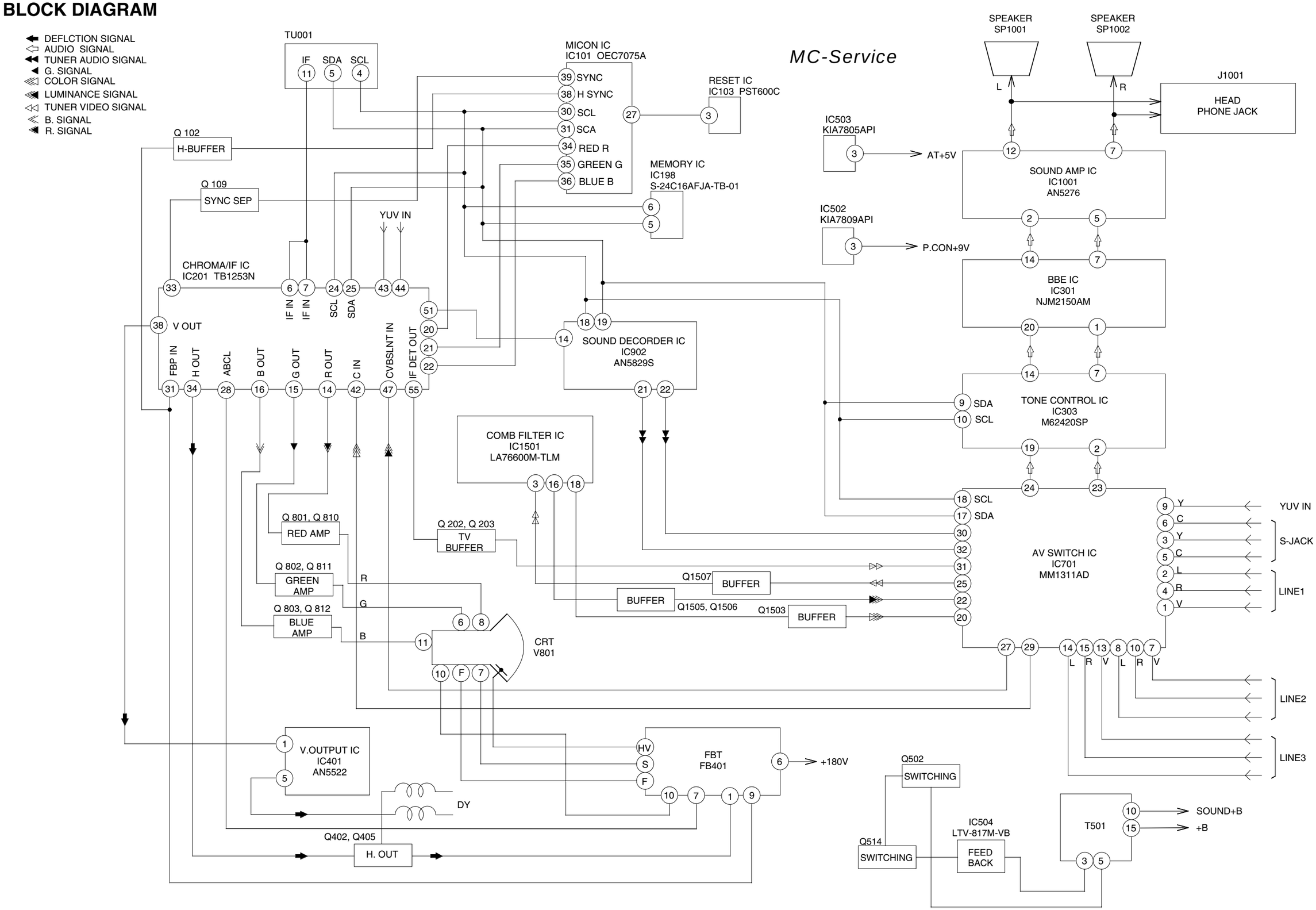



2SD2499(LBOEC1)



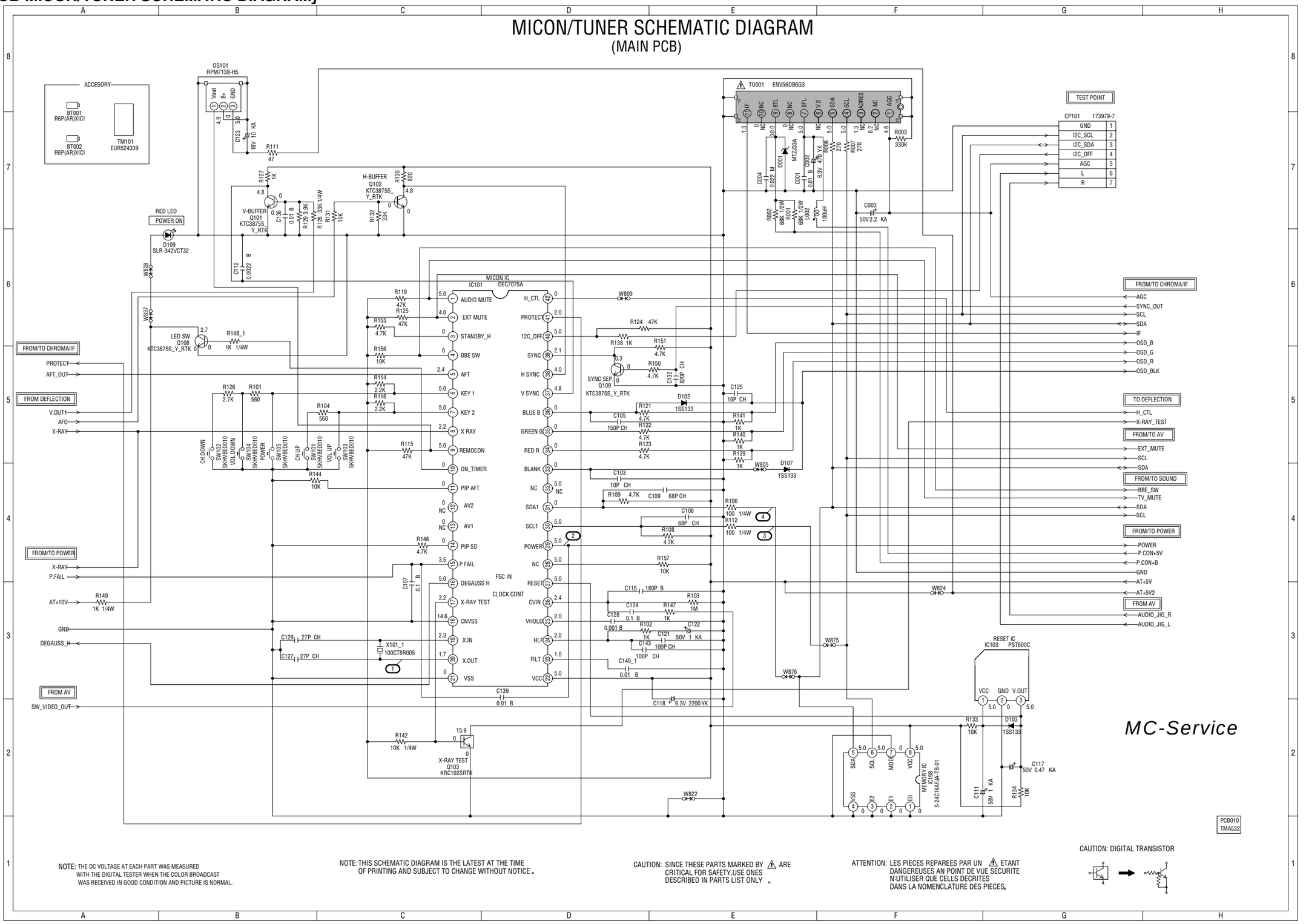

KTC4217(O,Y)

# BLOCK DIAGRAM



# SCHEMATIC DIAGRAMS

## *[MAIN PCB MICON/TUNER SCHEMATIC DIAGRAM]*



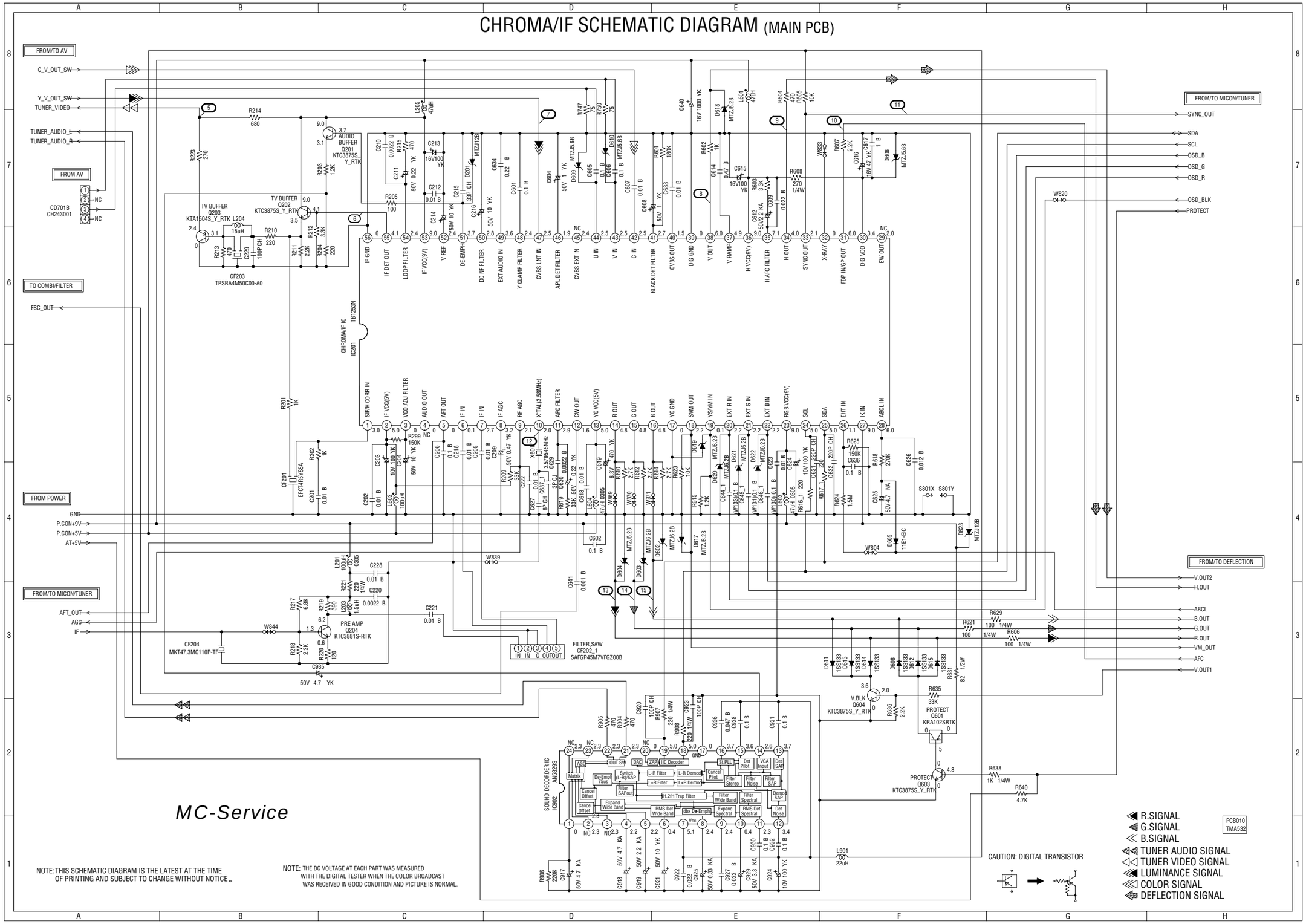

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

## *[MAIN PCB CHROMA/IF SCHEMATIC DIAGRAM]*



***[MAIN PCB DEFLECTION SCHEMATIC DIAGRAM]***

# DEFLECTION SCHEMATIC DIAGRAM
(MAIN PCB)

MC-Service

FROM POWER
P.CON+5V
P.CON+9V
GND
FBT+B
+B
AT+12V
P.CON+B

FROM/TO MICON/TUNER
X-RAY_TEST
V.OUT1
AFC
X-RAY
H_CTL

FROM/TO CHROMA/IF
AFC
V.OUT1
V.OUT2
H.OUT
ABCL
B.OUT
R.OUT
G.OUT
VM_OUT

V.OUTPUT IC IC401 AN5522
THERMAL PROTECTION
AMP
PUMP UP
VCC GND
4.0 25.0 2.0 0 12.0 25.0 4.0

H_CTL Q407 KTC3875S_Y_RTK
H.DRIVE Q402 2SC1627_Y
H.OUT Q405 2SD2499(LBOEC1)
X-RAY TEST Q406 DTA144EKA
T401 ETH14Y47AY
HS402 763WAA0216
B401 W5RH3.5 X5X1.0
B402 W5RH3.5 X5X1.0
L402 ELH5C4113
FB401 3220053R
COL E180 B+ AFC HEA TER GND E12 E27 GND E8 ABL

D402 11E1-EIC
D404 MTZJ9.1B
D405 AU02A-EIC
D407 AU02A-EIC
D410 MTZJ30B
D411 10ELS6N
D414 11E1-EIC
D415 11E1-EIC
D416 10ELS6N
D483 MTZJ30B

TO DY
CP401 B06B-DVS
NC NC
V801 A51LVV896X07(0)
R G B
CD803 CP83035A (CP805)
TO CRT

TO CRT
CP801A B2013H02-10P
180V NC NC GND HEATER B.OUT R.OUT G.OUT P.CON+9V GND
CD801 CU2A3401

CP851A B2013H02-5P
P.CON+B NC GND UNREG+14V VM COIL
CD851 CU253401

ANORD
FORCUS
SCREEN
TO CRT

TP004
PCB010 TMA532

CAUTION: DIGITAL TRANSISTOR

R.SIGNAL
G.SIGNAL
B.SIGNAL
DEFLECTION SIGNAL

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

## *[MAIN PCB POWER SCHEMATIC DIAGRAM]*

# POWER SCHEMATIC DIAGRAM

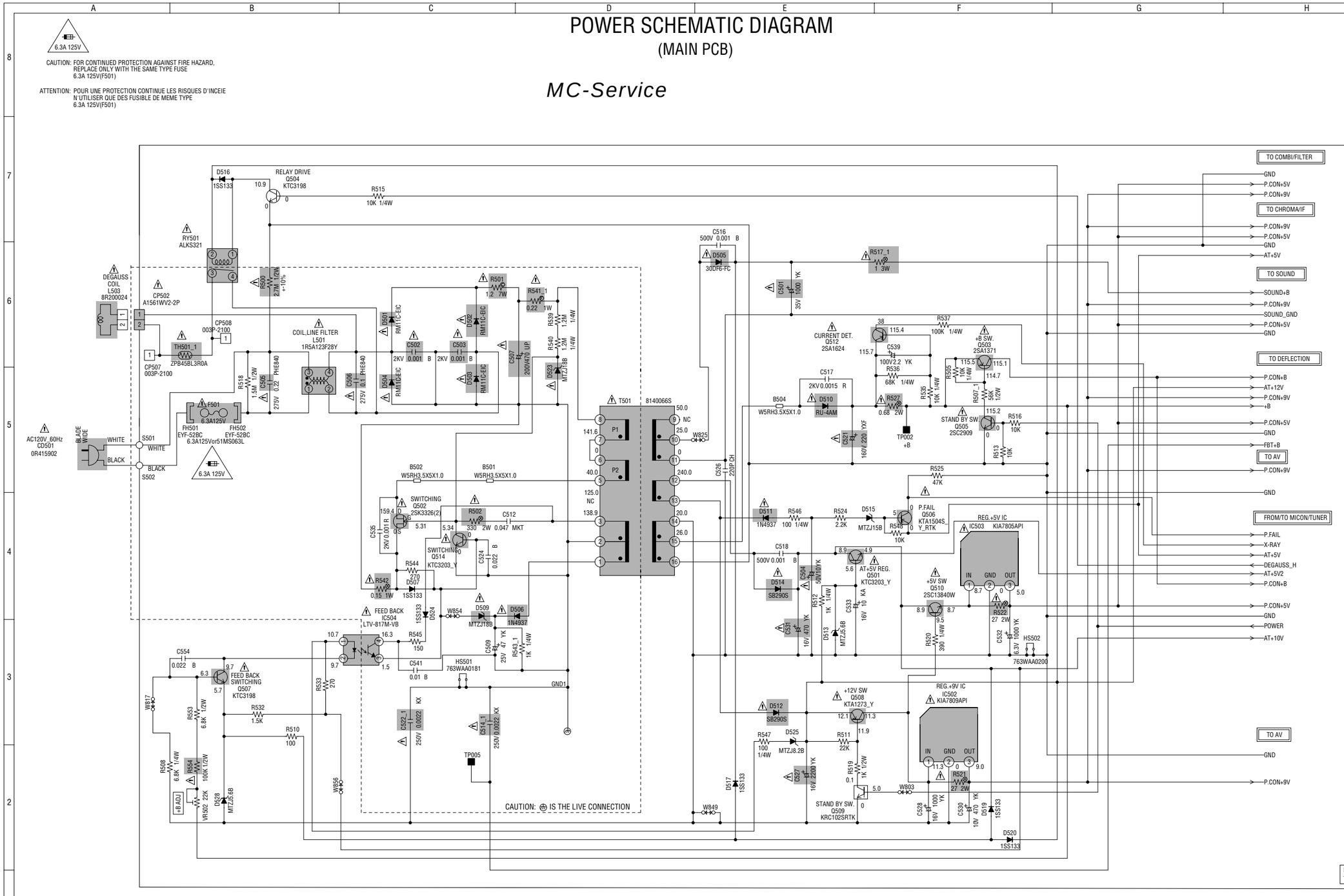
(MAIN PCB)

*MC-Service*

6.3A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 6.3A 125V(F501)

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 125V(F501)




NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THE RESISTOR MARKED F IS FUSE RESISTOR. THE ALUMI ELECTROLYTIC CAPACITOR MARKED NP IS NON POLAR ONE.

CAUTION: DIGITAL TRANSISTOR

## *[MAIN PCB SOUND SCHEMATIC DIAGRAM]*

# SOUND SCHEMATIC DIAGRAM
(MAIN PCB)

*MC-Service*

FROM AV
SW_AUDIO_R
SW_AUDIO_L
FROM/TO MICON/TUNER
SCL
SDA
BBE_SW
TV_MUTE
FROM POWER
P.CON+5V
P.CON+9V
SOUND+B
GND
SOUND_GND

TONE CONTROL IC IC303 M62420SP
BBE IC IC301 AWM2150AM
SOUND AMP IC IC1001 AN5276
CP1001 A2502WV2-4P
CD1001 CU14411A
SPEAKER SP1001 SG05K07BRA 8 OHM 5W 2.5W
SPEAKER SP1002 SG05K07BRA 8 OHM 5W 2.5W
HEADPHONE JACK J1001 MSJ-2000
MUTE Q1001 KRC111SRTK
HS1001 763WAA0215
D1003 MTZJ5.6B

PCB010
TMA532

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

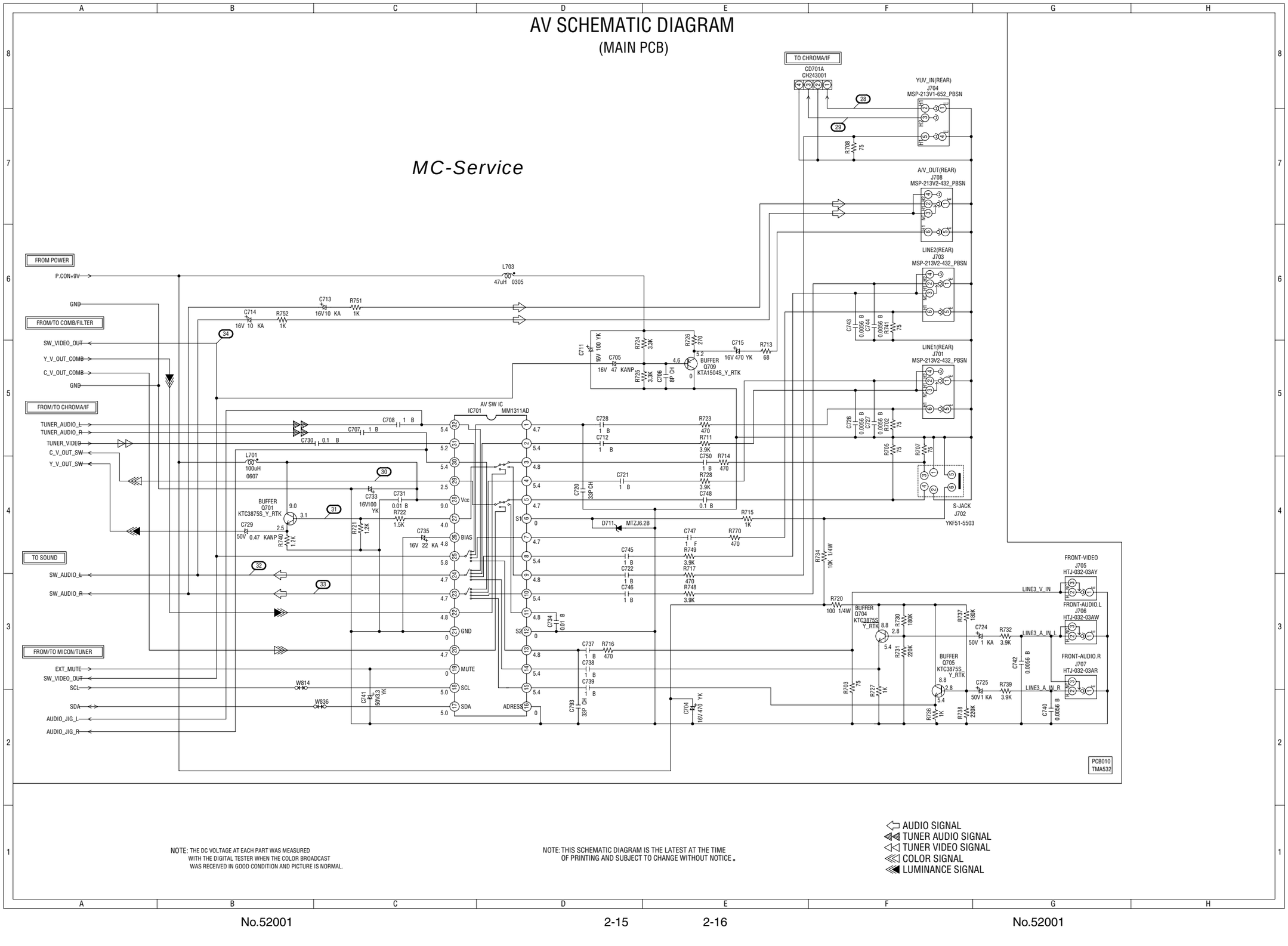
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: DIGITAL TRANSISTOR

AUDIO SIGNAL

***[MAIN PCB AV SCHEMATIC DIAGRAM]***



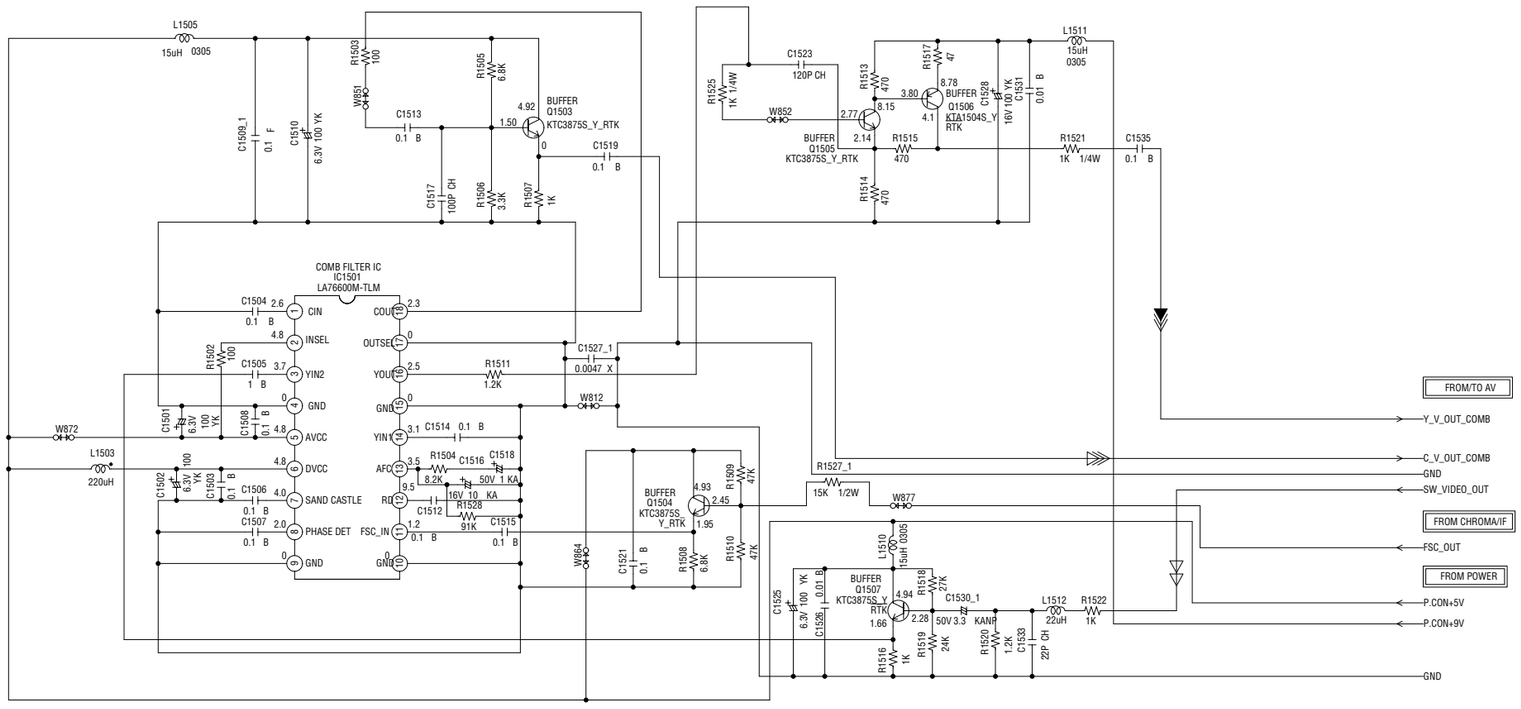

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

***[MAIN PCB COMB/FILTER SCHEMATIC DIAGRAM]***

# COMB/FILTER SCHEMATIC DIAGRAM
(MAIN PCB)

*MC-Service*




NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

COLOR SIGNAL
LUMINANCE SIGNAL
TUNER VIDEO SIGNAL

PCB010
TMA532

## *[CRT PCB AND VM COIL PCB SCHEMATIC DIAGRAMS]*

# CRT PCB SCHEMATIC DIAGRAM

*MC-Service*

PCB110
TCA391

FROM DEFLECTION
CP801_1
A2001WV2-10P
10 GND
9 P.CON+9V
8 G.OUT
7 R.OUT
6 B.OUT
5 HEATER
4 GND
3 NC
2 NC
1 180V

B801 W5RH3.5X5X1.0
D804 1SS133
D805 1SS133
D806 1SS133
C813 0.0022 M
C815 330P B
C823 100P B
CD811 CH013801

TP804
R804 12K 2W
L802 150uH
37
R828 2.7K 1/4W
RED AMP
Q801 KTC4217
R813 220 1/4W
123.5
7.8
7.3
D801 1SS133
R801 100 1/4W
RED AMP
Q810 KTC3199_Y
3.0
2.4
R810 1.8K 1/4W
C804 270P CH
R817 330 1/4W

TP805
R805 12K 2W
L803 150uH
38
R829 2.7K 1/4W
GREEN AMP
Q802 KTC4217
R814 220 1/4W
123.9
7.8
7.3
D802 1SS133
R802 100 1/4W
GREEN AMP
Q811 KTC3199_Y
3.0
2.4
R812 1.8K 1/4W
C805 220P CH
R819 330 1/4W

J801 CVT3275-5101
582.0
121.0
117.0
6.2
119.0

W804
C809 250V 2.2 YK

TP806
R806 12K 2W
L804 150uH
39
R830 2.7K 1/4W
BLUE AMP
Q803 KTC4217
R815 220 1/4W
119.7
7.8
7.3
R809 100 1/4W
D803 1SS133
R803 100 1/4W
BLUE AMP
Q812 KTC3199_Y
7.3
3.1
2.5
R811 1.8K 1/4W
C806 470P CH
R821 330 1/4W

C808 2KV 0.001 B

B802 W5RH3.5X5X1.0
W802

FROM DEFLECTION
CP803
A2361WV2-3P
GND
GND
GND
FOCUS
CP804 005P-2100
SCREEN

CP851_1
A2001WV2-5P
1 +B
2 NC
3 GND
4 UNREG+14V
5 VM COIL

VM+12V IC
IC851
KIA78L12BP-AT
IN GND OUT
15.0 0 12.0
C868 50V 0.47 YK
C866 16V 470 YK
R851 120 1/2W

R855 330 1/2W
C854 16V 10 YK
C867 0.1 B
C852 16V 47 YK
C853 16V 47 YK

R872 12K 1/4W
R870 1.5K 1/4W
D855 1SS133
R877 68 1/2W
C862 160V 47 YK
R879 2.7 1/2W

R864 39K 1/4W
6.0
11.8
SWITCHING
Q855 KTC3198
2.5
SWTCHING
Q856 KTC3198
11.8
2.5
1.8
SWITCHING
Q858 2SA1837
110.0
108.0
54.5
1.0

R856 1K 1/4W
R859 2.7K 1/4W
BUFFER
Q851 KTC3198
11.8
2.2
0.5
BUFFER
Q854 KTC3198
11.8
5.7
1.9
C860 500V 0.0047 B
R868 82 1/4W
C858 100P CH
R867 10 1/2W
D853 1SS133
R873 68K 1/4W
B851 W5RH3.5X5X1.0
D858 10ELS2M
R876 12K 1/4W
B853 W5RH3.5X5X1.0
D852 1SS133
R874 68K 1/4W
B852 W5RH3.5X5X1.0
D857 10ELS2M
C865 500V 150P B
R881 15 2W
FROM/TO VM
CP852 A2001WV2-3P
VM1 1
NC 2
VM2 3

C851 0.0082 M
AMP
Q852 KTC3198
10.3
0.
2.0
R863 3.9K 1/4W
C857 0.001 B
D854 1SS133
R854 33K 1/4W
R861 33K 1/4W
D852 1SS133
C861 500V 0.0047 B
SWTCHING
Q859 2SC4793
54.5
2.0
1.0
R869 82 1/4W
SWTCHING
Q857 KTA1266
1.8
2.0
0
R858 100 1/4W
AMP
Q853 2SC752(G) (TM)_Y
5.7
0
0
R852 2.2K 1/4W
R853 22K 1/4W
C856 0.01 B
R857 470 1/2W
C855 560P CH
R860 33 1/4W
R862 3.9K 1/4W
R865 56K 1/4W
R871 1.5K 1/4W
R875 1.2K 1/4W
C859 100P CH
D856 1SS133
R878 68 1/2W
R880 2.7 1/2W
C863 160V 47 YK
C864 160V 10 YK
R866 2.2K 1/4W
B803 W5RH3.5X5X1.0

PCB060
TEAA93
FROM/TO SVM
CP852B
B2013H02-3P
1
NC 2
3
CD852_1
CU232001
TO VM COIL
S851
S852
VM COIL
PCB

R.SIGNAL
G.SIGNAL
B.SIGNAL

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER WHEN THE COLOR BROADCAST WAS RECEIVED IN GOOD CONDITION AND PICTURE IS NORMAL.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

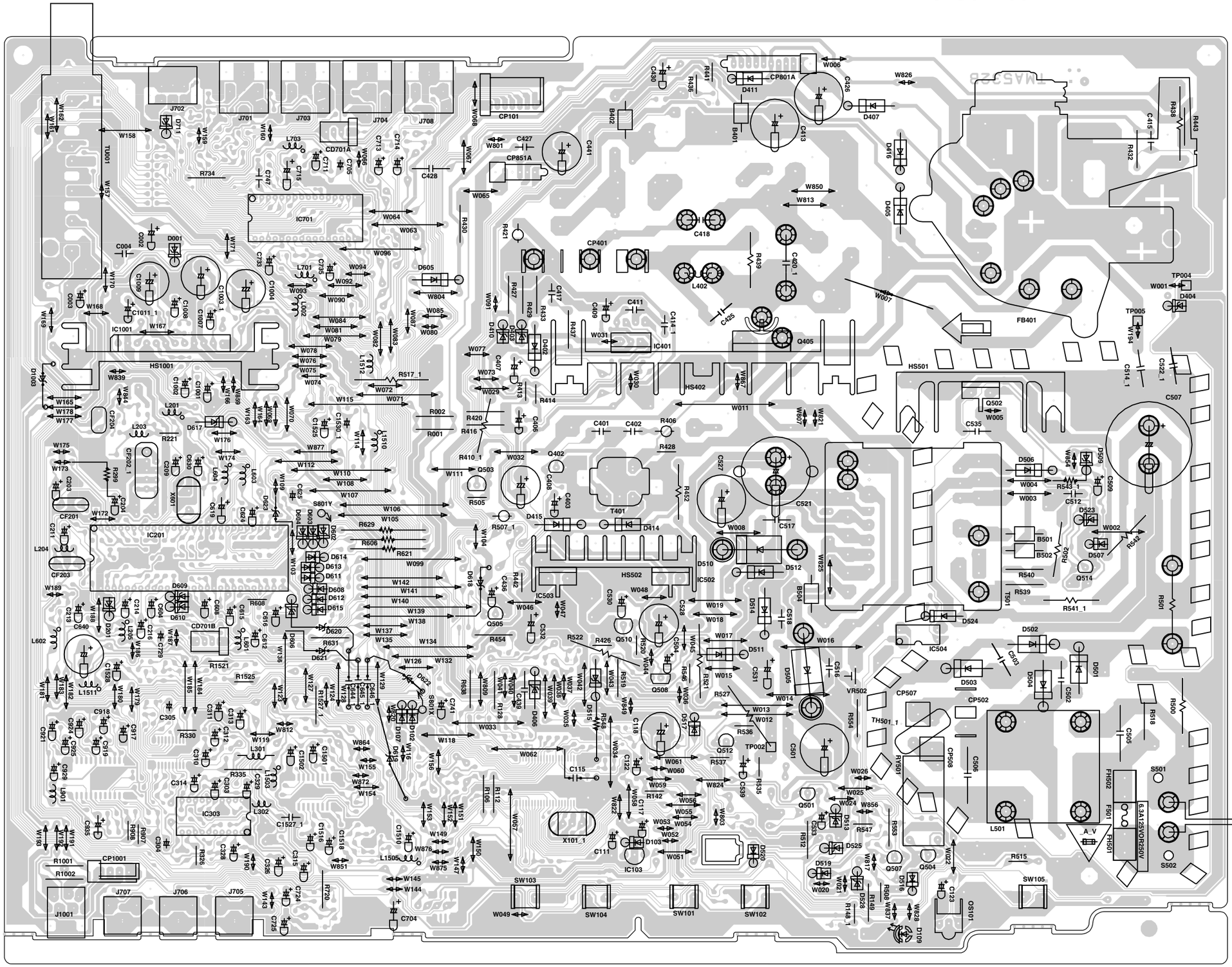
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

# PATTERN DIAGRAMS

## *[MAIN PCB PATTERN (INSERTED PARTS)]*

*MC-Service*


FRONT
CD501
S501
S502
TP004
TP005
D404
FB401
HS501
HS402
HS1001
HS502
IC1001
IC201
IC303
IC401
IC502
IC503
IC504
IC701
CP101
CP401
CP801A
CP851A
CD701A
CD701B
Q405
Q501
Q502
Q504
Q507
Q514
Q402
Q503
Q505
Q508
Q510
Q512
T401
T501
X101_1
X601
SW101
SW102
SW103
SW104
SW105
L1505
L1510
L1511
L1512
L201
L203
L204
L301
L302
L402
L501
L602
L603
L701
L703
L901
L1001
F501
FH501
FH502
TH501_1
RY501
OS101
J701
J702
J703
J704
J705
J706
J707
J708
J1001
TL001
D001
D002
D003
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D102
D103
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D617
D618
D619
D620
D621
D622
D711
S801X
S801Y
B401
B402
B501
B502
B504
TP002
TP005
W001
W194
W826
W850
W813
W007
W825
W824
W803
W822
W807
W821
W856
W837
W828
W817
W801
W804
W839
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W890
W894
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W886
W887
W888
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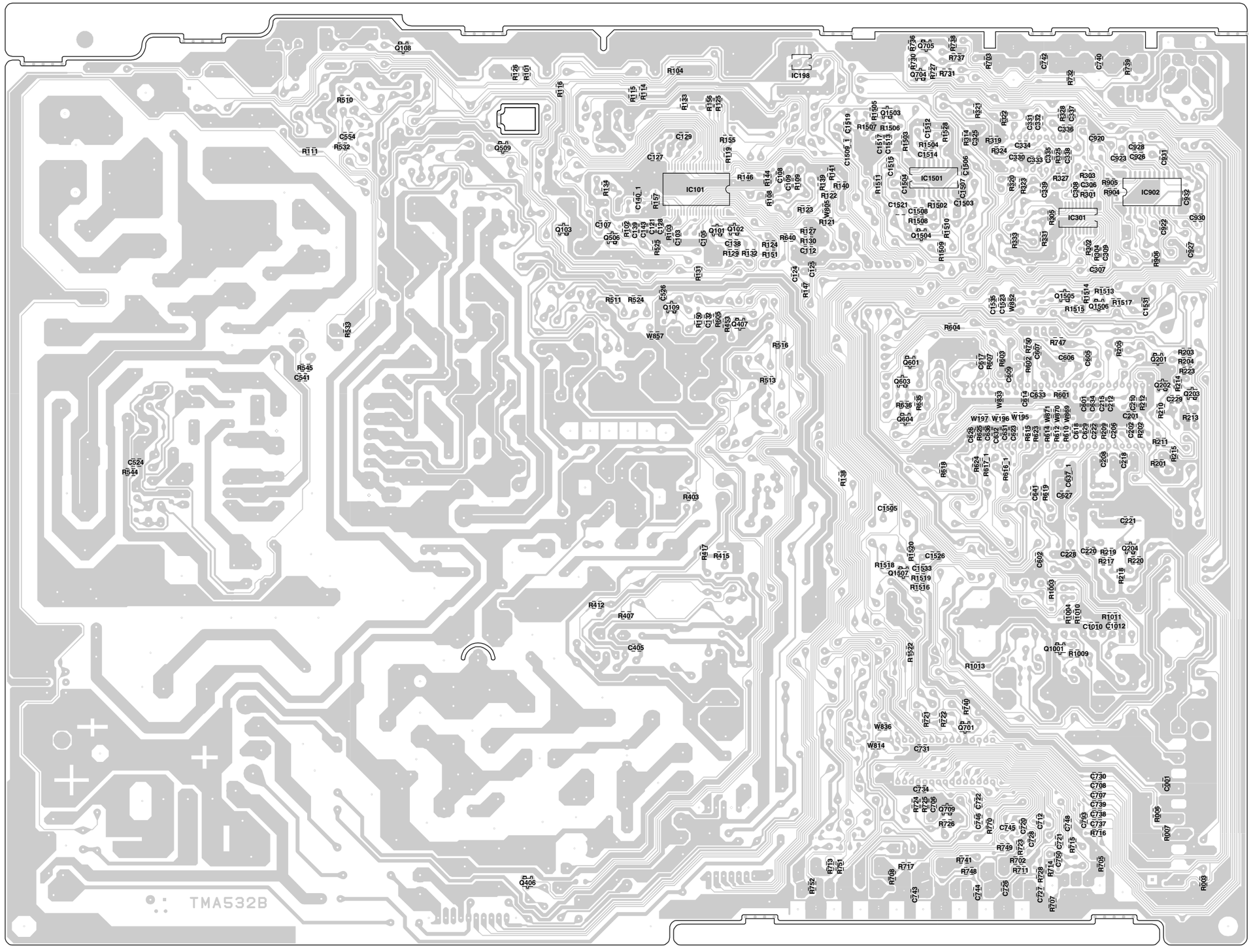
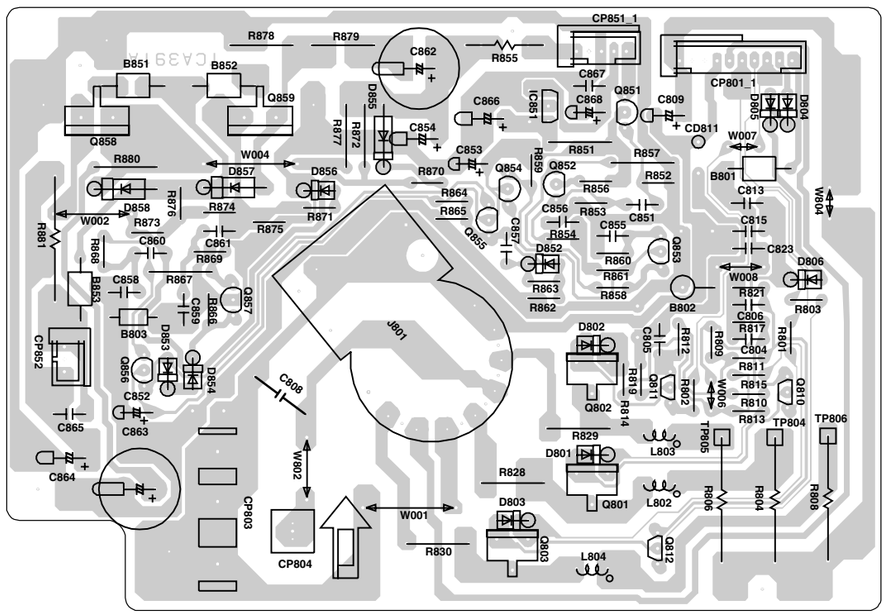
W892
W893
W894
W895
W896

***[MAIN PCB PATTERN (CHIP MOUNTED PARTS)]***

*MC-Service*

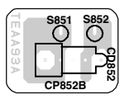


***[CRT PCB PATTERN]***



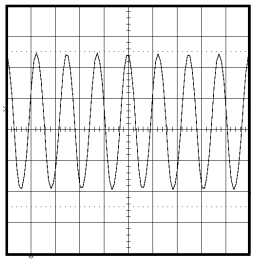

*MC-Service*

***[VM COIL PCB PATTERN]***

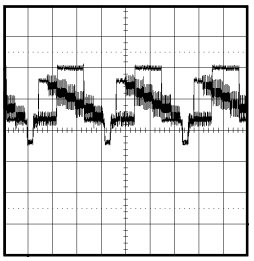


# WAVEFORMS

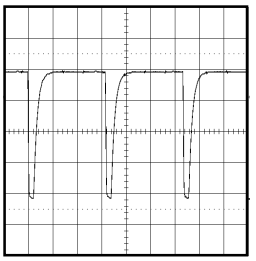
## MICON/TUNER



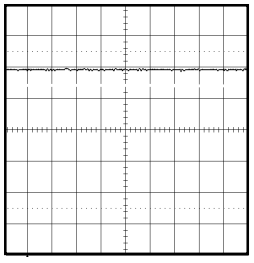
① 1V 0.1µs/div



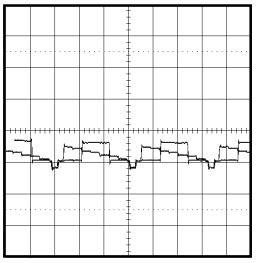
⑥ 1V 20µs/div



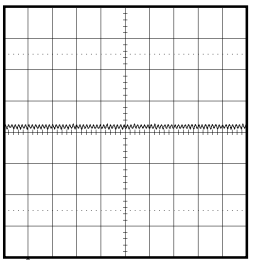
⑪ 0.5V 20µs/div



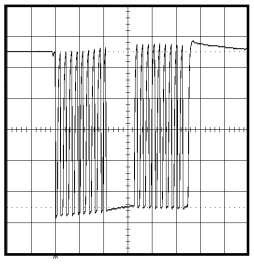
② 1V 1µs/div



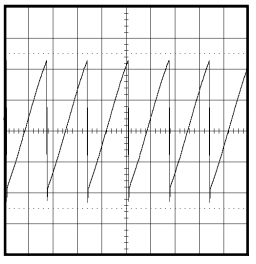
⑦ 1V 20µs/div



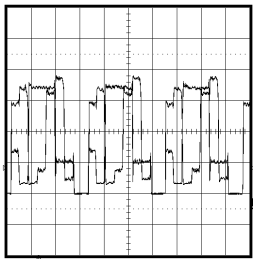
⑫ 1V 2µs/div



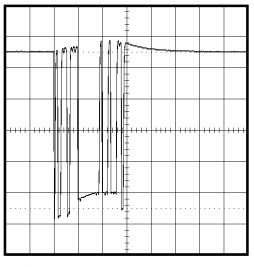
③ 1V 50µs/div



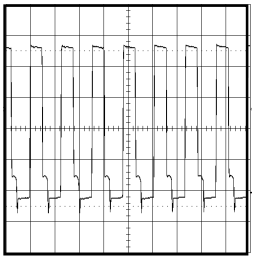
⑧ 0.5V 10ms/div



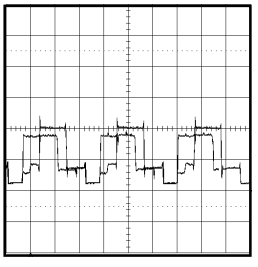
⑬ 1V 20µs/div



④ 1V 0.1ms/div

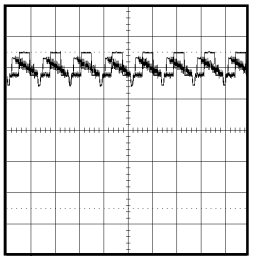


⑨ 1V 50µs/div

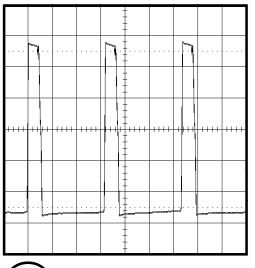


⑭ 2V 20µs/div

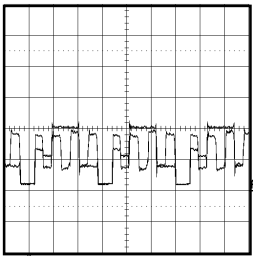
## CHROMA/IF



⑤ 1V 50µs/div



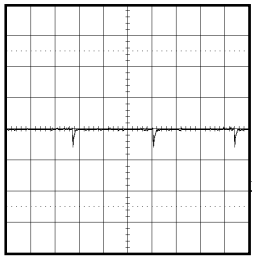
⑩ 2V 20µs/div



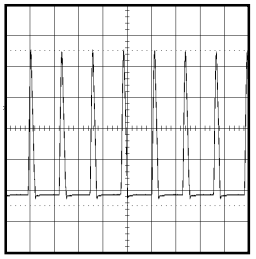
⑮ 2V 20µs/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

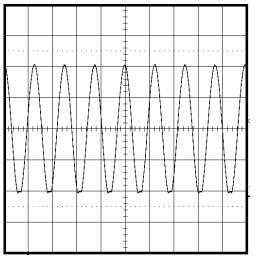
## DEFLECTION



⑯ 2V 5ms/div

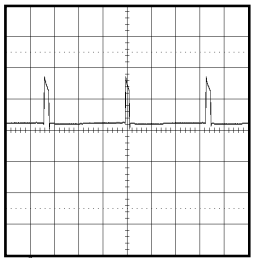


㉑ 200V 50µs/div

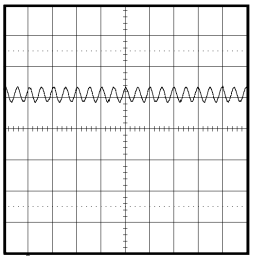


㉖ 5V 2ms/div

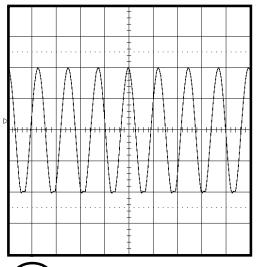
## SOUND



⑰ 20V 5ms/div

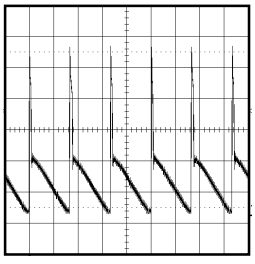


㉒ 2V 5ms/div

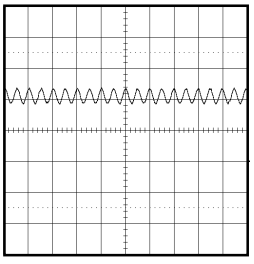


㉗ 5V 2ms/div

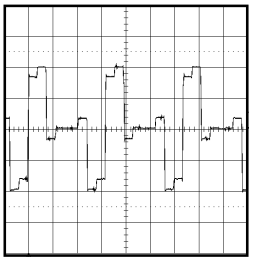
## AV



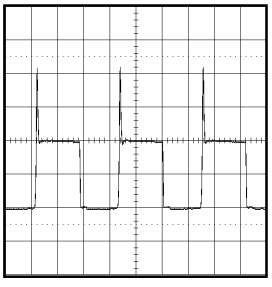
⑱ 10V 10ms/div



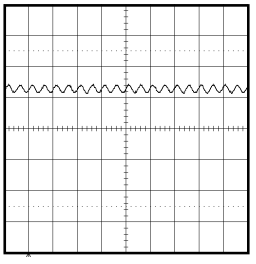
㉓ 2V 5ms/div



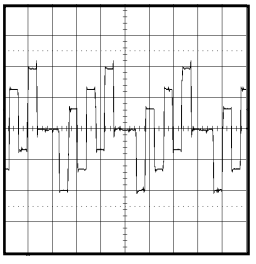
㉘ 200mV 20µs/div



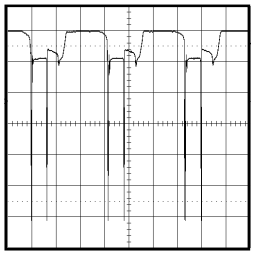
⑲ 20V 20 s/div



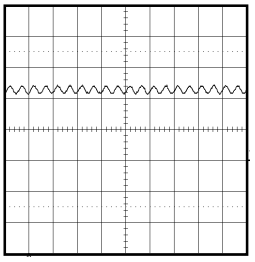
㉔ 2V 5ms/div



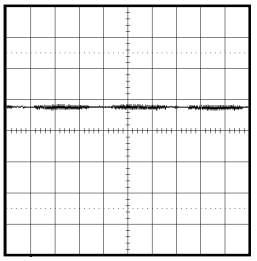
㉙ 200mV 20µs/div



⑳ 2V 20µs/div

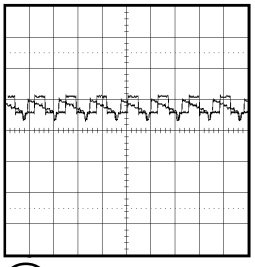


㉕ 2V 5ms/div

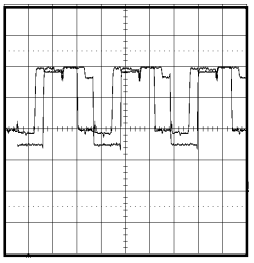


㉚ 2V 20µs/div

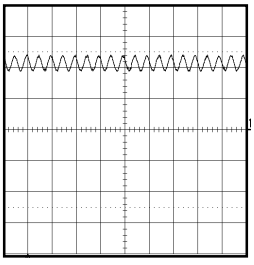
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.



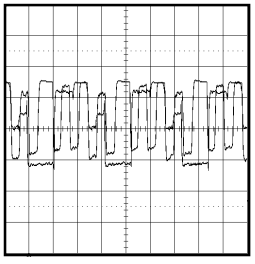
(31) 1V 50µs/div



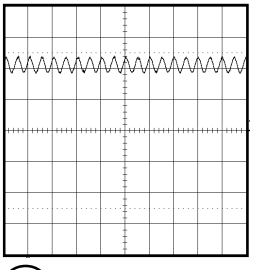
(38) 50V 20µs/div



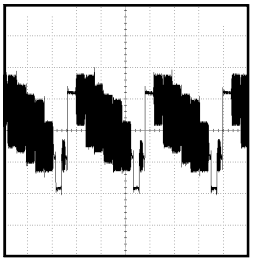
(32) 2V 5ms/div



(39) 50V 20µs/div

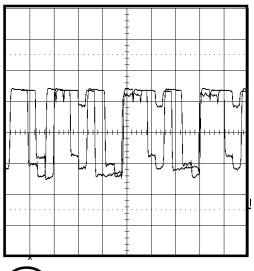


(33) 2V 5ms/div



(34) 500mV 20µs/div

**CRT**



(37) 50V 20µs/div

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.